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Before the

T.R.A. DOCKET ROOM

Tennessee Regulatory Authority

Docket No. 03-00118

TENNESSEE-AMERICAN WATER COMPANY

Direct Testimony and Exhibit of

Michael Gorman

On behalf of

Chattanooga Manufacturers Association

Project 7980 May 2003



Before the Tennessee Regulatory Authority Docket No. 03-00118

TENNESSEE-AMERICAN WATER COMPANY

Direct Testimony of Michael Gorman

Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
Α	My name is Michael Gorman. My business address is 1215 Fern Ridge Parkway, Suite
	208, St. Louis, MO 63141-2000.
Q	WHAT IS YOUR OCCUPATION?
Α	I am a consultant in the field of public utility regulation and a Principal in the firm of
	Brubaker & Associates, Inc., energy, economic and regulatory consultants.
Q	PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.
Α	I have been involved in public utility regulation and utility economic analysis for
	approximately 20 years. A more detailed description of my work experience and
	education is included in Appendix A to my testimony.
Q	ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?
Α	I am appearing on behalf of the Chattanooga Manufacturers Association (CMA).
	Member companies of CMA take large amounts of water from Tennessee-American
	Water Company (TAWC or Company), and their costs of water will be significantly
	increased by TAWC's proposed rate increase.
	A Q A Q

1 Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

2 A I will recommend adjustments to TAWC's cost of service and proposed rate design.

3 Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS IN THIS PROCEEDING.

4 A My recommendations are summarized as follows:

- TAWC's rates must be competitive to attract new and retain existing high volume customers. As such, TAWC's service quality and competitive pricing are key factors to the Chattanooga community's business infrastructure and economic development initiatives.
 - To keep TAWC's rates competitive, it must minimize its revenue requirement through assertive and aggressive cost management, and it must allocate its cost of service (COS) among its customers in accordance with how it incurs costs for providing service to each customer. Efficiency in cost management and cost allocation and rate design will help ensure that TAWC's prices are competitive and that it is able to successfully contribute to the economic development of its service territory.
- I find TAWC's cost of service to be generally reasonable, but I am recommending several adjustments to be consistent with Tennessee Regulatory Authority (TRA) orders, and to more accurately assign TAWC's cost of purchased power and small mains among its customer classes.
 - 4. TAWC's proposal to reallocate 75% of its fire hydrant service is inconsistent with the TRA order and should be rejected. Consistent with the TRA Order in Docket No. 99-00891, TAWC should absorb the cost of public fire hydrant service above the price approved by the TRA.
 - 5. TAWC has an agreement with the City of Chattanooga not to increase its fire hydrant rates. TAWC's estimated revenue deficiency to other classes will be reduced from \$3,829,966 or 12.6%, to \$2,724,956 or 8.95% if fire hydrant costs above TAWC rates are not reallocated to other classes. The impact of this increase to each of the rate classes is as shown on my Exhibit MPG-1, Schedule 1. Note that this schedule does not reflect all of my proposed adjustments to the Company's cost of service study. This adjustment shows only the modification to remove the Company's proposal to reallocate public fire hydrant costs to other classes.
 - 6. Based on all of my proposed adjustments to TAWC's allocated cost of service study, I recommend TAWC increase its rates to its customer groups as shown on the attached Exhibit MPG-1, Schedule 2, Page 1. (Note that I am not endorsing TAWC's proposed revenue requirement. Rather, I am using it in my schedule for illustrative purposes only.)

TAWC's cost of service study misallocated its cost of purchased power and small mains between classes. As discussed below, a more reasonable allocation of these costs will change the distribution of each classes' cost of service.

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- 8. To the greatest extent possible, I recommend that no class that is currently priced above TAWC's cost of service receive a rate increase in this proceeding. As shown on the attached Exhibit MPG-1, Schedule 2, Page 1, the only classes that should receive a rate increase in this proceeding are the residential class and the other public authority class. Note that the percent increase listed for these classes is based on TAWC's proposed revenue requirement. If the TRA accepts other parties' proposed reductions to TAWC's revenue requirement, then the increase for these respective classes would decline.
- I propose rates to accomplish my proposed allocation of TAWC's claimed revenue deficiency as shown on my Exhibit MPG-1, Schedule 3.

PLEASE EXPLAIN WHY TAWC SHOULD PROVIDE HIGH QUALITY, RELIABLE SERVICE AT COMPETITIVE PRICES.

TAWC must offer high quality, competitively priced services because many of its large volume users have alternative sources of supply that compete with TAWC. For example, many of TAWC's large industrial companies can use or expand well water supply for process water uses. Further, other industrial companies will quickly explore competitive alternatives if TAWC's prices are rendered non-competitive due to the Company's poor cost management practices, or if rates designed for large industrial companies subsidize other customer classes.

Large industrial companies would not do this out of spite, but are rather forced to aggressively manage production costs in order to remain competitive in their own marketplaces. Indeed, wholesale prices have been increasing by less than 1.6% per year over the last three years. With minimal wholesale price increases for their products, industrial companies have tremendous difficulty absorbing increases to their costs of production and meet required margins. Because of the industrial companies' competitive requirement to successfully control production costs, TAWC must be

		saccessful in managing its costs, and its rates must be adjusted to ensure that each
2		customer pays only its fair share of TAWC's cost of service.
3	Q	BEFORE YOU DESCRIBE YOUR ADJUSTMENTS TO THE COMPANY'S COST
4		STUDY, PLEASE EXPLAIN HOW YOU MADE YOUR PROPOSED ALTERNATIVE
5		COST ALLOCATIONS IN YOUR SCHEDULE 1 AND SCHEDULE 2 ATTACHED TO
6		YOUR TESTIMONY.
7	Α	These schedules were derived by starting with TAWC witness Herbert's cost of service
8		model which is attached to his testimony, in an exhibit titled "Cost of Service Allocation
9		Study as of July 31, 2002 and Proposed Customer Rates." In my Exhibit MPG,
10		Schedule 1, I adjust Mr. Herbert's cost study to reverse the reallocation of 75% of public
11		fire protection costs to other classes. In my Schedule 2, I reflect all my proposed
12		adjustments to Mr. Herbert's cost of service study, including:
13		1. The reallocation of public fire protection costs,
14		2. Adjusted allocation of purchased power costs, and
15		3. Adjusted allocation of small main costs.
16	Q	PLEASE EXPLAIN TAWC'S PROPOSAL TO REALLOCATE PUBLIC FIRE
17		PROTECTION COST.
18	Α	TAWC reallocated \$1.105 million of costs initially allocated to public fire protection
19		service to the residential, commercial, industrial and other public authority classes as
20		shown on TAWC witness Paul R. Herbert's Schedule B, Page 7. Based on TAWC
21		witness Michael Miller's direction, the cost for public fire protection service was capped

at 25% of its cost of service. The remaining 75% then was reallocated among the

classes identified above, based on total cost of service. TAWC is proposing to increase

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1	its fire hydrant rate from \$50.00 per hydrant to \$71.93 per hydrant (Miller direct at 11-
2	13).
3	Q IS THE COMPANY'S PROPOSED ALLOCATION OF 75% OF ITS COST OF PUBLIC
4	FIRE PROTECTION SERVICE REASONABLE?
5	A No. The Company's proposal is inconsistent with the TRA's order in Docket No. 99-
6	00891. In that docket the TRA approved a reduced tariff rate for TAWC's fire hydrant
7	charges to the City of Chattanooga as part of a settlement agreement between the City
8	of Chattanooga and TAWC.
9	The TRA agreed to reduce the City's fire hydrant charge from \$301.20 to \$50.00.
10	This reduction was phased in over the period December 31, 1999 through December 31,
1.1	2001. The total reduced revenues resulting from the reduced fire hydrant charge was
12	estimated to be \$1,127,964.
13	In that TRA order, it was clear that the Company agreed to accept the loss of this
14	revenue without passing this cost back to customers.
15	For example, in Footnote 6 to the Order, it states as follows:
16 17 18 19 20	"In this instance, lost revenues attributed to this tariff filing would be imputed into the Company's subsequent rate filings, thus reflecting the Company's and stockholders' decision to absorb the contribution loss." (Id at 3) (Emphasis added)
21	Further, in its ordering paragraph the Commission stated as follows:
22 23 24 25 26 27	"2. The loss contribution to Tennessee-American Water Company resulting from the reduction in fire hydrant charges, along with any expenses incurred as a result of the underlying litigation with the City of Chattanooga shall be borne, in full, by the stockholders of Tennessee- American Water Company.
28 29 30	 The Company's ratepayers should not at any time, through increases in rates, fees, schedules, or otherwise, bear any of the costs resulting from this tariff filing by Tennessee-

1 American Water Company to voluntarily reduce its fire 2 hydrant charges to the City of Chattanooga." (Emphasis added) 4 Based on this clear commitment by the Company, and the approval by the TRA, 5 the lost revenue created by the lower fire hydrant charges to the City of Chattanooga should not be reallocated among TAWC's other customers. The Company agreed to 6 absorb this revenue loss and should not be allowed to repudiate this commitment. 7 8 WHAT WOULD BE THE IMPACT ON TAWC'S COST OF SERVICE AND CLASS Q RATE INCREASES IF THIS REALLOCATION OF PUBLIC FIRE PROTECTION 9 10 **COSTS WAS REVERSED?** 11 If TAWC limits the increase to public fire protection to \$368,375, and is not allowed to Α pass back the reallocation of the difference between what it charges fire protection 12 13 service in its cost of service, then its revenue increase in this proceeding will decrease 14 from \$3,829,966 to \$2,724,944. The resulting impact on each class's cost of service is 15 shown on my Exhibit MPG - 1, Schedule 1. HOW DID TAWC ALLOCATE ITS PURCHASED POWER EXPENSES AMONG ITS 16 Q 17 **CLASSES?** 18 TAWC allocated its purchased power expense using Factor No. 1 as derived in TAWC Α witness Herbert's cost of service study. Factor No. 1 allocates this cost among customer 19 20 classes on the basis of average daily consumption.

Q PLEASE DESCRIBE WHY MR. HERBERT'S USE OF FACTOR NO. 1 TO ALLOCATE PURCHASED POWER EXPENSE IS UNREASONABLE.

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TAWC should allocate its purchased power expense in a manner that reasonably resembles how it procures purchased power. Power is procured based on demand and energy charges. Demand costs are tied to billing demand and demand charges. Energy costs are based on the amount of energy consumed each hour, and the energy charge.

For example, consider the Electric Power Board of Chattanooga's (EPB) General Power rate. The EPB charges for power based on a customer charge, demand charge, energy charge and facilities rental charge. The customer charge is based on a monthly charge tied to the number of services the Company incurs. The demand charge is based on the maximum 30-minute average demand measured within each month and the demand charge. The energy charge is based on the amount of energy consumed each hour. The monthly Facilities Charge is based on billing demand measured as the highest annual 30-minute demand of the preceding year and the facilities charge.

TAWC's purchased power demands are tied to its consumers demand for water. When water demand goes up, its pumping increases, thus increasing its purchased power demand. Consequently, TAWC's cost of purchased power demand is based on its customers' maximum hour demand for water. Similarly, the amount of energy TAWC uses is a function of how often the pumps run, and is then directly tied to the average volume of water supplied to customers.

Consequently, TAWC's cost of purchased power is not based only on its flow of water, but rather is highly correlated with both the variation of its customers' maximum hour demands and water flow. That is, the maximum hour demand drives the purchased power billing units, and the average flow drives purchased power energy consumption.

DID TAWC WITNESS HERBERT DERIVE ALLOCATION FACTORS WHICH WOULD 1 Q 2 EXPLICITLY ALLOCATE PURCHASED POWER DEMAND COSTS AND PURCHASED POWER ENERGY COSTS SEPARATELY BETWEEN THE CLASSES? 3 4 No. Also, Mr. Herbert's cost study did not break out the Company's purchased power Α costs by demand and energy components. Therefore, a correct allocation of purchased 5 6 power demand costs between customer classes is not possible. Therefore, I propose to use an allocation factor derived by Mr. Herbert that most reasonably allocates purchased 7 8 power costs (demand and energy) among customer classes.

WHICH FACTOR THEN WOULD BE APPROPRIATE FOR ALLOCATING TAWC'S PURCHASED POWER EXPENSE BETWEEN CLASSES?

Purchased power expense is more appropriately allocated using Mr. Herbert's allocation Factor 4, rather than his Factor 1. Mr. Herbert's Factor 4 considers average hour consumption and maximum hour demand. Average hourly consumption is an appropriate means of allocating customer and energy charges. Maximum hour consumption is an appropriate means of allocating the facilities rental charges and demand charge components of purchased power. Also, Factor 4 allocates an appropriate amount of the purchased power expense to fire protection as this service also impacts TAWC's maximum hour demand and annual system loads.

For these reasons, I recommend using Factor 4 to allocate purchased power expense, rather than Factor 1 as used by Mr. Herbert.

21 Q HOW DID TAWC WITNESS HERBERT ALLOCATE SMALL MAINS?

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22 A Mr. Herbert allocated all of his mains using Factor No. 4, as shown on his Schedule B, 23 Page 6 and Schedule C, Page 21. As shown on Mr. Herbert's Schedule C, Page 5,

1 57 (1941)	Factor 4 allocation is	based	on	average	hour	consumption,	maximum hour	extra
2	capacity, and fire protec							

Q PLEASE DESCRIBE YOUR PROPOSED ADJUSTMENT TO MR. HERBERT'S ALLOCATION OF SMALL MAINS?

I propose the use of a different allocation factor to allocate: (1) T&D mains not classified, and (2) T&D mains (4 inches or less). Rather than use Factor 4 as proposed by Mr. Herbert, I recommend using Mr. Herbert's Factor 11 – Allocation of Costs Associated with Services.

Q WHY DO YOU RECOMMEND ALLOCATING SMALL MAINS USING FACTOR 11 RATHER THAN FACTOR 4?

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Small mains are not used by <u>all</u> of TAWC's customers because many of TAWC's larger customers take service directly off mains of 4 inches or larger. Therefore, TAWC's small mains should not be allocated among all rate classes in proportion to average and maximum day demands as TAWC proposes. TAWC's allocation assigns a large percentage of the cost of small mains to customers who do not use these assets.

The services allocation factor (Factor 11) better describes the number of customers that use the small main than does Factor 4. As shown on Mr. Herbert's Schedule C, Page 16, the percentage of TAWC services are for meter sizes 3/4" and 1", and 1.5". These services are most likely receiving water from a main of 4" or smaller, than is a service with a meter size of 2" through 12". Further, the small mains are more similar to service lines than they are actual transmission mains. As shown on Mr. Herbert's Schedule C, Page 16, the number of customers that actually take service from

these smaller mains is more heavily weighted with residential and commercial customers than it is with industrial customers as evidenced by service meter size.

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Consequently, Factor 11 allocates a greater percentage of the costs of these small mains to residential and commercial customers, and a lower percentage to the industrial customers. The allocation is tied to the size of the service, which is the best factor derived by Mr. Herbert to assign the small main costs to the customers that actually use them. Thus, Factor 11 more appropriately allocates these costs among the customers that TAWC made these small mains investments to serve.

9 Q HOW WOULD MR. HERBERT'S COST OF SERVICE STUDY BE IMPACTED, IF ALL 10 OF YOUR RECOMMENDATIONS ADJUSTMENTS ARE MADE TO IT?

I have made all of the adjustments I am recommending to Mr. Herbert's class cost of service study and attached them to my testimony on Exhibit MPG-1, Schedule 2.

HOW DO YOU RECOMMEND THE COMMISSION ADJUST RATES IN ORDER TO PRODUCE THE CLASS REVENUE DEFICIENCIES YOU HAVE ESTIMATED ON YOUR EXHIBIT MPG-1, SCHEDULE 2?

To the greatest extent possible, I recommend only the classes whose current rates do not meet TAWC's full cost of service receive a rate increase in this proceeding. The two classes that should receive a rate increase include the residential, and other public authority classes. Note, I set public fire protection service revenue requirements at that proposed by TAWC.

1	Q	ARE YOU PROPOSING RATES THAT ACCOMPLISH THIS CLASS REVENUE
2		INCREASE PROPOSAL?
3	Α	Yes. Attached as Exhibit MPG-1, Schedule 3, are proposed rates, and proof of revenue
4		which approximately increase the class revenue requirements in accordance with my
5		revision to TAWC's cost of service shown on my Schedule 2.
6	Q	BASED ON YOUR PROPOSED RATES, THE RESIDENTIAL CLASS WILL RECEIVE
7		AN INCREASE OF 19.3%. IS THIS PERCENTAGE INCREASE TOO HIGH FOR THE
8		RESIDENTIAL CLASS?
9	Α	My proposed 19.3% increase to residential class is not significantly higher than the
10		Company's proposed increase of 16.1%. Also, a 19.3% increase is approximately 150%
11		of the system average increase. Given the infrequency of TAWC rate filings, this level of
12		increase for the residential class is reasonable.
13	Q	DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
14	A	Yes, it does.

Qualifications of Michael Gorman

1	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
2	Α	Michael P. Gorman. My business mailing address is P. O. Box 412000, 1215 Fern
3		Ridge Parkway, Suite 208, St. Louis, Missouri 63141-2000.
4	Q	PLEASE STATE YOUR OCCUPATION.
5	Α	I am a consultant in the field of public utility regulation and a principal at Brubaker &
6		Associates, Inc., energy, economic and regulatory consultants.
7	Q	PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK
8		EXPERIENCE.
9	Α	In 1983 I received a Bachelors of Science Degree in Electrical Engineering from
10		Southern Illinois University, and in 1986, I received a Masters Degree in Business
11		Administration with a concentration in Finance from the University of Illinois at
12		Springfield. I have also completed several graduate level economics courses.
13		In August of 1983, I accepted an analyst position with the Illinois Commerce
14		Commission (ICC). In this position, I performed a variety of analyses for both formal and
15		informal investigations before the ICC, including: marginal cost of energy, central
16		dispatch, avoided cost of energy, annual system production costs, and working capital.
17		In October of 1986, I was promoted to the position of Senior Analyst. In this position, I
18		assumed the additional responsibilities of technical leader on projects, and my areas of
19		responsibility were expanded to include utility financial modeling and financial analyses.
20		In 1987, I was promoted to Director of the Financial Analysis Department. In this
21		position, I was responsible for all financial analyses conducted by the staff. Among other

things, I conducted analyses and sponsored testimony before the ICC on rate of return,

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financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. In April 1995 the firm of Brubaker & Associates, Inc. (BAI) was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals (RFPs) for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements. Continuing, I have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Corpus Christi, Texas; Plano, Texas; Asheville, North Carolina; Denver, Colorado; and Chicago, Illinois.

HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and state regulatory commissions in Arizona, Colorado, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Michigan, Missouri, New Mexico, New York, Oklahoma, South Carolina, Tennessee, Texas, Utah, Vermont, West Virginia, Wisconsin and Wyoming. I have also sponsored testimony before the Commission of Public Utilities in Kansas City, Kansas; presented rate setting position reports to the regulatory Commission of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

15 Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS 16 TO WHICH YOU BELONG.

I earned the designation of Chartered Financial Analyst (CFA) from the Association for Investment Management and Research (AIMR). The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of AIMR's Financial Analyst Society.

MPG:cjs/7980/37418

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COMPARISON OF PRO FORMA COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES FOR THE TWELVE MONTHS ENDED JULY 31, 2002

ADJUSTED TO REMOVE REALLOCATED PUBLIC FIRE HYDRANT COST

	Pro Forma Cost of Service, as of 7/31/2002	st of Service,	Pro Forma Revenues Under Present Rates	Revenues	Pro Forma Revenues	enues
Customer Classification (1)	Amount (2)	Percent of Total (3)	Amount (4)	Percent of Total (5)	Amount t	Percent Inc. to Cost
Residential	\$15,635,446	47.2%	\$12,026,923	41.0%	\$3,608,523	30.0%
Commercial	8,507,306	25.7%	9,180,456	31.3%	-\$673,150	-7.3%
Industrial	3,658,461	11.1%	3,537,807	12.1%	\$120,654	3.4%
Other Public Authority	2,466,274	7.4%	2,345,806	8.0%	\$120,468	5.1%
Other Water Utilities	936,299	2.8%	856,218	2.9%	\$80,081	9.4%
Private Fire Protection	473,962	1.4%	1,117,875	3.8%	-\$643.913	-57 6%
Public Fire Protection	1,473,347	4.4%	256,049	0.9%	\$1,217,298	475.4%
Total Sales of Water	33,151,095	100.0%	29,321,134	100.0%	3,829,961	13.1%
Other Water Revenues	1,125,076		1,125,076		1,125,076	
Total	\$34,276,171		\$30,446,210		\$4,955,037	

Exhibit 1

COMPARISON OF PRO FORMA COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES FOR THE TWELVE MONTHS ENDED JULY 31, 2002

Adjusted to: Remove Reallocated Public Fire Hydrant Cost, and Change Allocation of Purchased Power Expense and Small Mains Costs

mmended	Percent Increase	21.0%	0.0%	0.0%	2.9%	%0 ·0	%0 [°] 0	42.7%	9.2%	0.0%	8.9%
CMA Recommended Increase Allocation	Amount -8	\$2,526,984	0	0	66,991	0	0	109,326	2,703,301	0	\$2,703,301
Revenues sed Rates	Percent of Total	45.4%	28.7%	10.9%	7.5%	2.7%	3.5%	1.1%	86.66		
Pro Forma Revenues Under Proposed Rates	Amount -6	\$14,553,907	9,180,456	3,537,807	2,412,797	856,218	1,117,875	365,375	32,024,435	32,024,435 1,125,076	\$65,173,946
Revenues ent Rates	Percent of Total	41.0%	31.3%	12.1%	8.0%	2.9%	3.8%	%6.0	100.0%		
Pro Forma Revenues Under Present Rates	Amount 4	\$12,026,923	9,180,456	3,537,807	2,345,806	856,218	1,117,875	256,049	29,321,134	1,125,076	\$30,446,210
st of Service, 1/2002	of Total	48.4%	25.4%	10.4%	7.3%	2.5%	1.6%	4.5%	100.1%		
Pro Forma Cost of Service, as of 7/31/2002	Amount -2	\$16,055,667	8,410,813	3,407,655	2,412,797	827,299	542,573	1,495,040	33,151,844	1,125,076	\$34,276,920
Customer	Classification (1)	Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection	Total Sales of Water	Other Water Revenues	Total

Exhibit 2

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS FOR THE TWELVE MONTHS ENDED JULY 31, 2002

Account		Factor	8				Other		Private	Public	
MARINE	Account	Ref.	of Service	Residential	Commence		Public	Offiser Water	£	£	
7	•	7	4	φ	Serial Market	Moustrail	Authority		Protection	Protection	
OPERA	OPERATION AND MAINTENANCE EXPENSES				,	7	7	•	우	-11	
	Source of Supply										
694	Coperation										
<u>§</u>	Operating Expenses	N	X	5	5	ā	8				
6101	Purchased Weter	N I	র	11	8	7	3 8	3 5	3	8	
	Haintenance	N	17,561	5,813	5,179	3,547	1,675	1,287	o	۳. و	
6202	Structures and Improvements	8	108.402	36,004	24 000				:	}	
	Subtotal Source of Supply	٠	126,201	41.772	37.217	21.897	10.342	7,946	119	249	
					1	761-07	12,039	9,250	2	280	
	Power and Pumping Expenses										
Š	Operation-										
5 5	Gen Sup & Eng Lab Oper PU	9	187 560	90.208							
5	Labor Oper PU	9	807 716	266 386	20,000	34,832	17,343	12,104	1.497	2 921	
5	Purch Power PU	4	1375 608	524 408	23/388	154,112	76,733	53,552	6.623	12 02	
70.0	PURCH POWER PU - Lookout Mtn. Tariff	6	139,029	114 545	40,000	137,010	151,317	0	32,739	62.885	
3 6	Furch Fower PU - Lakeview Tariff	8	35.479	30.334	00'81	0	4,802	0	0		
5 6	Fuel For Power Production	-	1,343	417	/68°C	0	351	0	0		
9 9	MISC PUMPING EXPENSES-CURRENT	9	8		\$ 5	8	124	5	8	4	
200	SS & PUMP TRANSPORTATION	9	9	4 6	200	<u> </u>	6	5	10	, C	
5	MISC PUMPING EXP ELECTRIC	80	2,685	98	7 66	- Ç	4	က	0		
	Success rower and Pumping		2,545,101	996,004	785 762	336 000	250 750	178	22	43	
	Water Transferent Contract				!	מביים מת	06/007	65,986	40,888	78,767	
	-Operation										
6013	W. Operation Superv & Eng	•									
6013	General W. Labor	N	167,848	55,558	49,498	33.905	16.043	12 202			
6183	General Chemicals	N •	88	2	=	_		36,3	2	98	
6203	Misc W Expenses-Current	- 6	150.00	228,835	211,792	168,026	68.489	58.850	1 260	0 10	
6353	Other Wt Oper Contract Services	V , C	7,00%	4,899	4,365	2,990	1.412	1.085	96	2,3/0	
6413	Wt Rents	, ,	21,048	76,987	15,143	10,372	4,899	3.764	2 8	\$ 5	
853	Wt Oper Transportation		0000	070'0	5,013	3,434	1,622	1246	3 2	2 6	
8753	Waste Disposal Exp (Cur)	٧.	430 454	112	5	88	ន	25	<u>.</u> c	3	•
6753	General Wt Expenses	- ~	50,03	40,412	37,223	29,531	12,039	10.308	3,	- 97	
6753	Misc Wt Expenses-Current		210,85	18,732	17,580	12,042	5.687	4370	1	9	
		•	6//16	17,138	15,268	10,459	4,939	3 795	3 6	2	•
6204	Or Min Wil Struct & Imp Max	c	707 90					}	;	2	
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TENNESSEE-AMERICAN WATER COMPANY

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TENNESSEE-AMERICAN WATER COMPANY

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Management Fees - Cartel Bang/Service 12	88	Management Fees - Water Quaity	•	36,50	70,62	10,811	3,977	2.911	8	S S	3 5	
Contract Services - Administration 4	83.48	Management Fees - Cust Riting/Sarving	- 5	000,621	38,182	35,178	27,909	11.378	0770	8 8	88°,	
Activation Command	8348	Management Faes - Administration	7	000'/19	533,335	72,74	1.789	5 985	1 8	87	3	
Age	6358	Contract Services - Other	* ;	1,767,276	969,881	419,375	154,283	112 000	3 6	7,207	2	
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Control Exceptions Control	8208		*	23,408	12,846	5,555	2044	1 2	3	1/3	418	
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1	8228	Inferior & Democrat	7	215,470	118,250	51,131	20,00	- ç	204	287	760	
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Total Operation & Maintenance Expenses 16,147,497 8,602,672 3,588,386 1,506,740 1,086,203 357,138 187,400 CATTON EXPENSE Integrables Integrated by the control of the con		COLOGE AUTHORISITEM STORY COLOGO		7,683,829	4,351,852	1 781 018	847 807	200	10.883	6,350	15,303	
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TENNESSEE-AMERICAN WATER COMPANY

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Transmistation 2	Teansmission & Disactional Carbon 1	8,545 26,244 2,870 34,235 3,375 3,376 47,882 1,983 1,983 24,178 92,365 251,500 16,850 1,589 1,128 1,258 1,258 1,258 1,258	23,336 24,40 26,440 1,742 218,230 5,541 1,742 218,230 5,541 4,631 6,551 6,5	2,065 15,119 0 19,722 0 533 224 3,770 56,947 56,349 1,699 567 567 567 567 567 567 567 567 567 567	26.57.2 26.57.2 26.57.2 26.57.2 26.57.2 26.57.2 26.57.2 26.57.2 26.57.3 26.57.	28,323 20 0 2,277 20,527 20,636 20,457 24,588 24,588 24,588 24,588 24,588 24,588 24,588 24,588 24,588 24,588	575 0 0 374 1,789 1,789 3,086 4,388 1,528 168 2,511 2,511 2,511 2,511 168	1,203 7,18 3,446 0 0 1,22 20,34 2,833 4,822 0 0 0 0
To Disservate & Suprage Total Control Cont	Tentamisation & Distribution 7 17.842 14	6,545 26,244 2,870 6,76 34,235 3,755 3,375 47,882 1,963 24,178 92,365 251,500 16,550 1,550 251,500 16,550 0 1,550 1,258 1,258 1,258 1,258 1,258 1,258	5,840 23,395 136 30,517 568 825 5,440 7,681 1,742 2,18,237 40,515 6,501 6,501 0,3162 3,162 3,396 23,396	2,005 15,119 16,119 0 0 0 53,33 3,77 6,34 1,669 56,34 1,669 56,34 1,669	2,572 1,572 115 115 138 138 138 138 138 138 138 138 138 138	22, 22, 284 6, 884 196 196 198 24, 28 24, 24 24, 24	374 1,789 1,789 1,789 2,334 4,358 15,281 15,281 2,511 2,514 2,514	2, 2, 4, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6,
To Distance Authorized State Transfer Authorized State	Land Rights Activation T & D Structures T & D Reservoirs & Standpioes - Painting 5 82,842 100,004	6,545 26,244 2,870 6,785 3,375 3,375 3,375 1,863 1,1853 2,4,617 47,882 1,1853 2,4,617 6,178 6,178 6,178 6,178 1,550 1,550 0 0 9,881 1,288	5,840 23,395 498 136 30,517 5,861 1,742 2,132 6,501 8,227 40,515 6,501 8,227 40,515 6,337 6,337 6,337 2,386 23,386	2,065 15,116 19,722 53,337 510 63,947 3,770 56,349 1,669 1,6	1,889 1,572 115 115 18 9,877 138 287 862 862 1,779 1,779 2,659 1,779 2,7	221 5,277 6,884 0 186 1,389 24,57 24,57 0 0 24,457 20,457 0 0 24,457	374 1,789 1,789 1,789 2,334 4,358 15,281 15,281 15,281 2,511 22,986 2,511	2,446 7,495 1,495
To Distance Activation of State	T & D Reservoirs & Standaples 7 602 17,642 1 602 1	6,545 28,244 2,870 676 34,235 3,375 3,376 47,882 1,983 24,787 82,356 251,500 16,850 16	23,396 240 23,396 23,396 240 21,742 218,230 5,501 5,501 5,501 3,162 3,968 23,398	2,055 15,119 19,722 0 19,722 0 533 224 3,770 56,349 1,669 1,769 1,669 1,	267 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1889 1 1 1 1	0 252.2 252.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	374 1,789 1,789 2,334 3,086 4,358 1,281 15,281 16,281 16,281 2,511 2,511	25 22 4.45 22 3.44 22 3.44 22 3.44 3.23 3.44 3.23 3.44 3.23 3.23
1	1 & D. STRUCKURS 1 & D. STRU	6,545 26,244 2870 34,235 3,235 3,375 3,376 47,882 1,963 26,180 1,963 1,563 251,500 16,	5,840 488 136 30,517 568 825 5,440 7,681 1,742 218,232 6,501 82,227 40,515 6,503 6,503 6,503 6,337 6,337 6,338 82,227 7,881 7,881 7,881 82,227 82,227 82,227 82,238 83,238 84,238	2,065 15,119 19,712 22,83 22,84 3,770 56,349 1,699 567 567 567 567 567 567 567 567 567 567	2,572 115 115 116 118 128 128 128 128 179 179 179 179 179 179 179 179 179 179	22.777.2 6.884 196 196 198 24.22 24.24 25.24 26.	374 1,789 0 0 2,334 4,586 3,086 3,086 3,086 2,581 2,581 2,581 0 0	3,448 3,448 0 1,22 1,22 2,34 2,334 2,822 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 Concord Mourain Tarm 19	T. & D. Reservoirs & Standploes 5 52,942 Lockout Mountain Tarif 19 3,484 Lakeview Tarif 20 821 Lakeview Tarif 20 821 Lockout Mountain Tarif 20 822 Lockout Mountain Tarif 20 822 Lockout Mountain Clear 20 4 642 Lak D. Mains - Mains (Cr - 10") 4 642 Lak D. Mains - Mains (Cr - 10") 3 20 Lockout Mountain Clear 20 10 Lockout Mountain Clear 20 10 Lockout Mountain Clear 20 10 Land & Land Rights 20 10 Computer & Peripheral Equipment 14 13,375 Computer & Peripheral Equipment 14 13,375 Computer & Peripheral Personal 14 104,222 Heavy Thucks 20 10 Lockout Light Thucks 14 10,4,222 Lattonroleles 14 17,204 Lattonroleles 14 17,204 Lattonroleles 20 20 Lockout Lockout 20 20	26,244 2,870 34,235 3,375 3,375 47,882 1,983 1,185 1,185 1,178 6,178 6,178 6,178 6,178 1,550 1,5	23,395 488 136 30,517 586 282 5,440 1,742 218,230 5,501 6,501 6,501 6,501 6,337 6,337 6,337 6,337 2,388	5,100 19,722 19,722 22,4 23,47 3,770 3,770 56,349 1,66	1,888 1,572 1415 1416 182 182 182 182 1,778 1,778 1,778 1,334 1,334 1,334 1,346 1,346 1,346 1,346 1,346 1,346 1,346 1,346 1,346 1,346 1,43	22.7 6, 88.4 0 0 0 186 1.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	374 1,789 0 0,2,334 4,358 1,528 15,281 16,281 2,511 2,511 0 0	718 3,446 4,495 122 122 234 223 4,622 0
Lobout Mourtain Tarif 19	T. & D. Maintern Tariff 19 3-15-24 T. & D. Maintern Chesoling 5 108 (064 Londout Mountain Tariff 19 3-15-24 T. & D. Maintern Chesoling 5 2-15-25 T. & D. Maintern Chesoling 7 4 4-17-24 Meletarn Chesoling 7 7 7 7 Meletarn Chesoling 7 7 Meletarn Chesoling 7 7	2,870 876 8,735 8,375 9,26 3,767 47,882 1,983 1,983 82,365 251,500 16,850 1,588 1,258 1,258 1,258 1,258 1,258 1,258 1,26	23,385 26,385 30,17 566 540 7,681 1,742 218,230 5,501 82,227 40,515 6,337 6,337 6,338 23,386	15,719 19,722 19,722 224 234 3,770 3,770 3,549 1,669 1,669 24	7,572 115 8 9,877 138 282 282 287 28,587 1,739 28,594 984 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5,277 0 6,884 1986 1986 1986 20,457 24,588 24,588 24,588 24,588 24,588 24,588	1,789 0 0 0 0 0 0 0 0 0 3,086 4,388 4,388 15,281 168 2,511 2,511 2,511 2,511 0 0	3,446 0 0 0 122 122 20,341 233 4,822 0 0
T. C. Distance in Case Standing	Lakeview Tarif	2,870 9,725 3,375 3,375 3,376 47,882 1,185 2,4,178 6,178 6,178 6,178 1,285 1,285 1,288 1,288 1,378 1,288 1,378	1468 136 30,517 586 825 5440 7,681 1,742 2,13230 5,501 8,227 40,515 5,537 40,515 5,337 3,162 3,162 3,368	19,722 53,327 53,317 53,347 3,770 56,349 1,669 1	115 8 1387 148 287 282 822 177 1,779 26,591 84 984 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2,334 6,334 1,528 15,281 15,281 2,511 22,986	200 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
T. D. Disservictories S. Sanckipose-Pariety G. Sancki Kanada S. Sa	T & D Reservoir & Standploes-Painting 5	676 94,235 3,375 926 33,767 47,882 1,983 1,983 1,983 82,365 251,500 16,850 16,850 16,850 0	136 90,517 586 825 825 17,440 1,742 218,230 5,501 6,0515 6	19,722 0 0 224 317 510 63,947 3,770 563,48 1,669 567 567 24	287 287 287 287 287 287 287 287 287 287	284 0 0 0 85 4 0 0 0 85 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5	2,334 63 3,086 1,086 1,281 16,281 168 2,511 2,511 2,511	20 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
December 19	Loudout Mountain Tairff	34,235 3,375 3,375 3,376 47,882 47,882 41,883 1,788 82,365 82,365 82,365 251,600 16,850 16,288 73,788	30,517 586 825 825 5,440 7,681 1,742 2,18,230 6,501 6,501 6,501 6,337 6,337 6,337 6,338 82,338	19,722 0 0 233 224 217 53,947 3,770 56,349 1,669	9,887 138 822 822 824 1,779 1,779 1,779 84 84 94 1,334	281. 201. 201. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20	2,334 63 63 3,086 4,538 15,281 15,281 2,581 2,581 2,581 0	2,446 1,22 1,23 1,23 1,23 1,23 1,23 1,23 1,33 1,3
To Delates Albert Signation Temperation	Computer & Period Benchmark 19 4,086 T. & D. Mains not Classafied 11 2,922 T. & D. Mains not Classafied 11 6,086 T. & D. Mains not Classafied 11 6,086 T. & D. Mains not Classafied 12 4 5,125 T. & D. Mains - Mains (e^- 10^-) 4 5,125 T. & D. Mains - Mains (e^- 10^-) 4 5,125 T. & D. Mains - Mains (10^- 10^-) 3 19,067 T. & D. Mains - Mains (10^- 10^-) 3 19,067 T. & D. Mains - Mains (10^- 10^-) 3 19,067 Services Melera - Merial Classafield 11 321,036 Melera - Merial Classafield 10 14,084 Melera - Merial Classafield 10 14,084 Melera - Merial Classafield 10 10 103,942 Melera - Merial Classafield 10 10 103,942 Melera - Merial Classafield 10 10 103,942 Melera - Merial Classafield 14 18 19 Computer & Peripheral Equipment 14 18,375 Computer & Periph Personal 14 13,375 Computer & Periph Personal 14 13,375 Computer & Software Personal 14 104,222 Heavy Trucks 14 104,222 Heavy Trucks 14 10,4,222 Turner Office Equipment 14	3,375 928 33,767 47,882 1,983 1,983 1,983 8,178 8,178 1,500 16,850 0 9,981 1,288 1,378 0	586 825 825 1742 218,230 5,501 6,551 6,0515 5,307 3,162 3,386 23,386	533 533 533 547 547 563 1,669 667 667 667 667 667 667 667 667 667	261 261 261 261 261 261 261 261 261 261	28.0 28.0 28.4 30.0 30.0 30.0 30.0 30.0 30.0 30.0 30	2,334 63 63 6,366 4,358 15,281 16,281 2,581 22,986	485 20 20 20 32 482 482 623 60 00 00 00 00 00 00 00 00 00 00 00 00
T. D. D. Marier - Marier (Cr 167) Cr. Marier - Marier (Cr 167) Cr. Marier - Marier (Cr 168) Cr. Marier - Marier	T. & D. Maints - Models T. & D. Models - T. Models -	926 926 33,767 47,882 1,882 1,883 6,178 8,178 0 0 16,850 16,850 12,88 1,288 1,288 73,788	825 826 6,440 7,681 1,142 2,182 6,501 80,515 6,337 6,337 6,336 3,366 23,366	53.3 55.347 56.347 56.348 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669 1,669	267 265 265 265 265 1,779 4,334 844 964 964 964 964 964 964 964 964 964 9	0 96 1	63 3,066 4,358 1122 115,281 168 2,511 22,966 0	0 0 22 23 4 22 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
To Distans Indians (or Centrolled)	T & D Mains not Classified 11 4,103 T & D Mains - Mains (e^ 10^-) 4 4,125 T & D Mains - Mains (e^ 10^-) 4 642,041 T & D Mains - Mains (e^ 10^-) 3 19,087 T & D Mains - Mains (10^ 10^-) 3 19,087 T & D Mains - Mains (10^ 10^-) 3 226,312 Services 11 23,742 Melers - Pleatic Case 10 23,742 Melers - Pleatic Case 10 23,742 Melers - Pleatic Case 10 1,773 Melers - Pleatic Case 10 1,773 Melers - Pleatic Case 10 13,342 Hydrafis 10 1,773 Melers - Pleatic Case 10 13,342 Hydrafis 10 1,774 Melers - Pleatic Case 10 13,342 Hydrafis 2 14,888 Office Structures 14 18,348 Ormpuler & Periphear Equipment 14 18,488 Compuler & Periph Other 14 19,400 </td <td>33,767 47,682 1,683 1,853 2,44,617 6,178 92,356 251,600 16,850 16</td> <td>5,440 7,681 1,742 2,812 8,501 8,501 6,515 6,337 0 3,462 3,896 23,386</td> <td>533 534 534 5534 1,669 1,669 567 567 570 583 583 583 583 583 583 583 583 583 583</td> <td>267 26.56 1,778 26.56 4,334 4,344 864 177 177 177 177 177 177 177 177 177 17</td> <td>861 4 0 0 0 0 0 0 2 4 5 7 7 4 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>63 3,086 4,358 15,281 16,281 2,511 22,986 0</td> <td>28,344 28,344 28,344 323 4,822 0</td>	33,767 47,682 1,683 1,853 2,44,617 6,178 92,356 251,600 16,850 16	5,440 7,681 1,742 2,812 8,501 8,501 6,515 6,337 0 3,462 3,896 23,386	533 534 534 5534 1,669 1,669 567 567 570 583 583 583 583 583 583 583 583 583 583	267 26.56 1,778 26.56 4,334 4,344 864 177 177 177 177 177 177 177 177 177 17	861 4 0 0 0 0 0 0 2 4 5 7 7 4 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	63 3,086 4,358 15,281 16,281 2,511 22,986 0	28,344 28,344 28,344 323 4,822 0
T & D Marter. Marter (2" - (")	T. & D. Mains - Mains (4" or less) 11 62,105 T. & D. Mains - Mains (4" or less) 4,125 4,125 T. & D. Mains - Mains (10" - 10") 3 126,204 T. & D. Mains - Mains (10" - 10") 3 19,087 Services 11 321,036 Meters - Mains (12" or More) 13 226,312 Services 11 321,036 Meters - Meters - Plestic Case (10" or 14,034 10 14,084 Meters - Meters - Meters Casen/lew Styte 10 14,084 Meters - Meters - Meters Casen/lew Styte 10 14,084 Meters - Meters Casen/lew Styte 10 14,084 Meters - Meters Casen/lew Styte 10 14,084 Meters - Meters Casen/lew Styte 10 13,742 Meters - Meters Casen/lew Styte 10 127,489 Gentral Casen/lew Styte 14 18,348 Office Structures 14 18,348 Ormputer & Periph Personal 14 18,346 Computer & Periph Resonal 14 19,00 Computer & Periph Personal <td< td=""><td>33,767 33,767 1,863 244,617 6,178 6,178 6,178 0 0 16,850 1,258 73,768</td><td>5,440 7,681 1,742 218,230 8,501 8,501 40,515 5,337 0 0 3,162 388 23,386</td><td>224 317 510 63,947 3,770 1,669 1,669 1,669 336 42</td><td>26.25 26.25 1,779 26.55 4.334 964 977 27.75</td><td>4 8 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6</td><td>3,086 4,358 122 15,281 168 2,511 22,986 0</td><td>20, 234 20, 341 4, 822 0 0 0 0 0</td></td<>	33,767 33,767 1,863 244,617 6,178 6,178 6,178 0 0 16,850 1,258 73,768	5,440 7,681 1,742 218,230 8,501 8,501 40,515 5,337 0 0 3,162 388 23,386	224 317 510 63,947 3,770 1,669 1,669 1,669 336 42	26.25 26.25 1,779 26.55 4.334 964 977 27.75	4 8 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	3,086 4,358 122 15,281 168 2,511 22,986 0	20, 234 20, 341 4, 822 0 0 0 0 0
T. B. Distance - Makes (Fr Fr Fr Makes - Makes - Makes - Makes (Fr Fr Makes - Makes (Fr Fr Makes - Makes (Fr Fr Makes - Makes (Fr Makes - Makes) (Fr Makes - Makes (Fr Makes - Makes) (Fr Makes - Makes - Makes) (Fr Makes - Makes) (Fr Makes - Makes - Makes) (Fr Makes - Makes - Makes - Makes - Makes) (Fr Makes - Mak	T & D Mains - Mains (" - 6") 4 5,125 T & D Mains - Mains (" - 10") 4 642,047 T & D Mains - Mains (" - 10") 3 19,087 T & D Mains - Mains (" - 10") 3 19,087 T & D Mains - Mains (" - 10") 3 265,312 Services Melers - Pestic Case Melers - Pestic Case Melers - Melai Casen/lew Siyle 10 23,742 Melers - Melai Casen/lew Siyle 10 1,773 Melers - Melai Casen/lew Siyle 10 1,774 Melers - Melai Casen/lew Siyle 10 1,774 Melers - Melai Casen/lew Siyle 10 1,774 Melers - Melai Casen/lew Siyle 10 1,04 Computer & Peripheral Equipment 14 1,375 Melers - Melai Casen/lew Melai Me	47,882 1,863 244,617 6,178 82,366 251,500 16,850 1,258 73,768	7,681 1,742 218,230 5,501 82,227 40,515 5,337 0 3,162 396 23,396	317 63,947 3,770 56,349 1,669 567 0 336 42	26 564 1,778 26,559 26,559 4,559 964 977 727	20, 20, 20, 20, 20, 20, 20, 20, 20, 20,	4,388 12,281 16,281 2,511 22,986 0	20,34 20,34 323 4,822 0 0
1	\$\frac{\pi}{\pi}\$ \text{ Distance } \text{ Fig. 2} \text{ Fig. 2} \text{ T & D. Marins : Marins (1° - 1°) } \text{ 4 } \text{ 642,041} \text{ 7 & D. Marins : Marins (1° - 1°) } \text{ 3 } \text{ 2 D. Marins : Marins (1° - 1°) } \text{ 3 } \text{ 3 } \text{ 2 D. Marins : Marins (1° - 1°) } \text{ 3 } \text{ 3 } \text{ 2 D. Marins : Marins (1° - 1°) } \text{ 3 } \text{ 4 D. Marins : Marins (1° - 1°) } \text{ 3 } \text{ 4 D. Marins : Marins (1° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins (2° - 1°) } \text{ 4 D. Marins : Marins : Marins (2° - 1°) } 4 D. Marins :	1,963 244,617 6,178 92,365 251,500 16,850 0 9,381 1,258 73,768	1,742 218,230 5,501 82,227 40,515 5,337 5,337 399 23,366	510 63,947 3,770 56,349 1,669 1,669 0 0 336 42	26.55 26.56		2,531 15,281 16,281 2,511 22,986 0	29,341 29,341 322 4,822 0
1	T & D Mains - Mains (12" of More)	244,617 6,178 92,355 251,500 16,850 0 9,981 1,258 73,768	218,230 5,501 82,227 40,515 5,337 0 3,162 398 23,366	55,347 3,770 1,669 1,669 336 42	70,625 1,778 28,591 4,334 964 97	. 08 6.08 7.08 7.08 7.08 7.08 7.08 7.08 7.08 7	15,281 168 2,511 22,986 0	20.20.20.20.20.20.20.20.20.20.20.20.20.2
A D Name - Mains (10 - 16) 3	& U Maints - Mains (10" - 16") 3 19,087 & L Maints - Mains (10" - 16") 3 285,312 Services 11 221,028 Melers - Metal Case-Old Style 10 23,742 Melers - Pleatic Case 10 23,742 Melers - Pleatic Case 10 14,064 Melers - Metal Case-Niew Style 10 17,74 Melers - Metal Case-Niew Style 10 13,942 Melers - Metal Case-Niew Style 10 13,942 Melers - Metal Case-Niew Style 10 13,942 Melers - Metal Case-Niew Style 14 16,969 Computer & Pertin Order & Perti	6,178 92,365 251,500 16,850 0 9,981 1,258 73,788	5,501 82,227 40,515 5,337 0 3,162 3,98	26,34 177,88 1,88 1,00 1,00 1,00 1,00 1,00 1,00 1	28,581 28,581 4,334 984 0 0 0 172 772	- 8 6 6 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	15,281 168 2,511 22,986 0	28,34 28,28 0 0 0 0 0
Earl D Maries - Mains (17 or More) 3 226,512 226,512 226,513 24,714 21,389 188 Earl D Maries - Mains (17 or More) 1 22,1036 226,5130 24,514 24,524 24,534	The District Process	92,355 251,500 16,850 0 9,981 73,788	2,227 40,515 5,337 3,162 3,89 23,386	56,349 1,689 1,689 0 0 36,73 3,00 3,00 4,00 4,00 4,00 4,00 4,00 4,00	28,58 4,334 864 964 771 772	± 8 16 8 4 0 ±	2,511 2,511 22,986 0	323 4,822 0 0 0
Services Holess 22,108 25,109 40,515 60,548 26,561 20,457 25,11 44 25,108 25,109 40,515 60,549 26,541 26,11	Services Services Melera - Meter Cased Style Melera - Meter Cased Style Melera - Meter Cased Case Melera - Meter Cased Cased Cased Melera - Meter Cased Cased Melera - Meter Cased Melera - Melera - Meter Cased Melera -	251,500 16,850 0 9,981 1,258 73,768	23,366 3,162 3,388 3,386	567 567 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	28,584 4,334 96,170 177 177 178	8 6 8 8 9 0 4	2,511 22,986 0 0	4. 00000
Melens Melatic Casa (Odd Style Included Casa (Od	Melens-Metal Case/Old Style 10 23,722 Melens-Metal Case/Old Style 10 10 Melens - Metal Case/Old Style 10 1,084 Melens - Metal Case/Old Style 10 1,733 Metal Case/Old Style 10 1,734 Metal Case/Old Style 10 1,734 General Plant 11 10 Land Rights 14 6,031 Office Shrutures 14 14,889 Office Furniture 14 14,889 Office Furniture 14 14,889 Office Furniture 14 183,489 Computer & Periph Personal 14 183,489 Computer & Periph Personal 14 13,375 Computer & Periph Personal 14 186,890 Computer & Periph Personal 14 1,040 Computer Software Personal 14 166,890 Computer Software Personal 14 16,864 Computer Software Personal 14 16,864 Automobies 14 17,262	16,850 9,981 1,258 73,768	23,386 23,337 3,162 399 23,386	86. 750 86. 24	26. 20. 17. 25.	8202	22,986	
Melense Designations Holense Ableial Case) (Sylection Style Melense Ableial Case) Holense Designation Style Melense Ableia Case) Holense Designation Style Ableia Case) Holense	Melens - Mesia Case/Od Style 10 14,084 Melens - Pleatic Case/New Style 10 14,084 Melens installations 10 1,773 General Plant 103,942 17,749 General Plant 14 10,749 Office Structures 14 6,031 Office Structures 14 14,169 Omfice Structures Engineert 14 361,106 Computer & Perich Resonal 14 183,468 Computer & Perich Personal 14 183,468 Computer & Perich Personal 14 166,869 Computer Software Personal 14 15,040 Computer Software Personal 14 5,844 Office Computer Software Personal 14 5,844 Office Computer Software Personal 14 5,844 Office Computer Software Personal	73,768	3, 162 3, 162 23,386 23,386	98 o 88 24	3 0 5 2 6	¥ o ∓	0001	0000
Metern - Plastic Case 10 14,064 9,881 3,162 36 0	Melens - Peatic Case 10 14,084 Melens - Metal Case/New Siye 10 1,773 Melen instalations 10 1,773 Hydrants 10 1,773 Hydrants 21 127,499 General Plant 127,499 Card & Land Rights 14 6,031 Corres Structures 14 14,189 Office Furniture 14 14,189 Corroute & Personal 14 183,468 Computer & Personal 14 18,348 Computer & Personal 14 18,416 Computer & Personal 14 19,00 Computer & Personal 14 1,00 Computer Software Personal 14 5,504 Computer Software Personal 14 5,504 Computer Office Equipment 14 5,504 Light Trucks 14 5,504 Light Trucks 14 5,504 Automodies 14 6,004 Automodies 14 6,004	9,981 1,258 73,768	3,162 369 23,366	o & 4	57.0	o <u>4</u>	001	000
Metern - Metal CaseNew Style 1,773 1,581 3,162 356 571 14 0 Metern Installations Hydrate Installations 10 1,773 1,789 23,986 2,464 4,220 104 0 Hydrate Installations Hydrate Installations 10 107,499 73,788 23,986 2,464 4,220 104 0 General Plant 1 1,478 3,310 1,431 327 365 127 74 Gives Shutzree 1 6,031 3,310 1,431 527 365 374 181 Grombut Schware 1 4,188 6,160 3,528 1,278 965 29,90 374 181 Computer Schware Christ 1 56,106 26,900 3,174 4,686 3,694 4,466 3,271 2,096 Computer Schware Christ 1 15,418 7,776 3,594 4,466 3,096 3,871 4,406 Computer Schware Christ 1 1	Meletrar - Metal CasenNew Style 10 1,703-1 Meletrar Instalations 10 1,713-1 Meter Instalations 10 103-942-1 General Plent 21 127,489-1 General Plent 14 6,031-1 Computer & Descriptoral Equipment 14 14,889-1 Office Furniture 14 261,106-1 Computer & Periph Personal 14 351,489-1 Computer Software Personal 14 13,375-1 Computer Software Personal 14 26,445-1 Computer Software Personal 14 26,445-1 Computer Software Personal 14 5,544-1 Computer Software Personal 14 5,544-1 Other Office Equipment 14 5,564-1 Automodèles 14 17,204-1 Automodèles 14 17,204-1 <td>73,768 0</td> <td>3,162 398 23,366</td> <td>8 4</td> <td>F 22 6</td> <td>4</td> <td>01</td> <td>000</td>	73,768 0	3,162 398 23,366	8 4	F 22 6	4	01	000
Metar Installations Hold of the Carbon State (Market Installations) 103,942 1,428 23,98 42 772 2 0 General Debtit Compute Structures 1 1,474 0	Melev Installations 103,942	73,788	23,386 23,386	4	22.5			• •
Hydrants 10,942 1,7,489 1,5,748 1,481 1,48	Hydrants 21 127,489 General Plant Land & Land Rights 14 6 031 Grote Structures 14 14,889 Office Furniture 14,188 Office Furniture 14,188 Ompuder & Periph Ceraculoment 14 18,348 Compuder & Periph Other 13,375 Compuder Software Personal 14 18,489 Compuder Software Personal 14 18,489 Computer Software Personal 14 51,040 Computer Software Personal 14 56,564 Automobies 14 17,284	,5,788 0	23,366		7	7	=	
127,489	14 0 12/489 14 6,031 15 6,031 16 6,031 17 14,888 17 14,888 17 14,888 17,888 18 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,348 19 18,349 19 18 18,349 19 18 18 18 18 18 18 18 18 18 18 18 18 18	•		2,484	37.5	Ş		•
14 6,031 3,310 1,431 527 395 127 74 14 14,888 8,160 3,528 1,237 395 127 74 14 14,168 7,776 3,528 1,237 305 127 74 14 361,106 198,175 8,580 31,255 23,075 7,819 4,405 14 198,488 108,175 8,580 31,774 1,680 12,335 4,082 2,390 14 16,880 91,586 39,594 14,666 10,662 2,390 173 14 16,880 91,586 39,594 14,666 10,662 2,362 1,677 <td< td=""><td>14 6,031 Equipment 14,168 Equipment 14,168 14 14,168 14 14,168 6r 14 33,76 6r 14 13,776 6r 14 5,584 14 104,282 14 104,282 14 104,282 14 104,282</td><td></td><td>0</td><td>0</td><td>•</td><td>5</td><td>•</td><td>9</td></td<>	14 6,031 Equipment 14,168 Equipment 14,168 14 14,168 14 14,168 6r 14 33,76 6r 14 13,776 6r 14 5,584 14 104,282 14 104,282 14 104,282 14 104,282		0	0	•	5	•	9
14 6,031 3,310 1,431 527 385 127 74 14,868 8,160 3,528 1,228 850 314 181 14,168 1,775 3,322 1,228 850 314 181 14 18,168 1,675 3,528 1,228 850 314 181 14 18,468 1,675 4,591 1,688 865 2,360 14 18,375 7,340 31,525 23,075 7,619 4,405 14 18,375 7,340 31,528 3,521 2,036 14 18,685 3,521 3,521 2,036 14 18,685 3,521 3,521 3,521 3,521 14 18,685 3,521 3,521 3,521 3,521 14 18,685 3,522 3,521 3,521 3,521 14 18,684 3,522 3,521 3,521 3,521 14 18,684 3,522 3,521 3,521 3,521 14 18,685 3,522 3,521 3,521 3,521 14 2,161 1,185 3,521 3,521 3,521 14 20,784 11,390 4,534 1,812 1,326 4,38 14 20,784 11,409 4,534 1,812 1,326 4,38 14 20,784 11,409 4,534 1,815 1,326 4,38 14 20,784 1,4423 3,521 3,521 3,521 3,521 14 20,784 4,444 1,521 3,521 3,521 14 20,784 4,444 1,521 3,77 3,77 3,77 3,77 14 20,784 4,444 1,521 3,77 3,77 3,77 3,77 15 3,77 3,7	14 0 14 6 031 Equipment 14,188 14 14,188 14 18,488 or 14 13,755 or 14 18,755 or 14 13,755 14 186,850 or 14 5,684 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282 14 104,282				•	•	>	127,499
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1,4,868	Equipment 14, 1688 Equipment 14, 1688 Equipment 14, 168 I 14, 168 Sonal 14, 169 Sonal 14, 169 Sonal 14, 18, 375 Sonal 14, 18, 376 Sonal 14, 28, 445 I 14, 28, 445 I 14, 104, 282 I 14, 17, 284 I 17,	0	0	0	0	0	5	
Office Furnitate Computer & Perpinent Computer & Pe	Office Furniture Computer & Peripheral Equipment Computer & Peripheral Equipment Computer & Peripheral Equipment Computer Software 14 28,445 14 104,282 Heavy Trucks 14 104,282 Heavy Trucks 14 104,282 Heavy Trucks 14 104,282 Heavy Trucks 14 104,282	3,310	1,431	527	386	127	7.7	Ę
4 4,169 7,776 3,382 1,237 905 299 173 4 18,168 108,175 85,690 31,525 2,3075 7,619 4,405 4 183,468 106,175 45,690 12,383 4,082 2,390 4 186,850 91,596 38,594 14,596 10,682 2,390 4 16,640 22,010 12,112 4,456 10,682 3,281 15,31 4 28,445 15,611 12,712 4,456 3,281 1,917 823 4 104,282 57,229 24,436 3,281 1,917 823 4 104,282 57,229 24,456 1,507 1,103 394 4 104,282 57,229 24,456 1,507 1,103 394 4 17,284 39,473 4,097 1,507 1,103 394 4 2,88 136 15,517 1,507 1,103 394 4 2,161 1,182 5,13 10,395 1,507 1,103 4 20,784 11,409 4,934 1,815 1,329 4,39 4 20,784 14,423 6,236 2,294 1,816 5,132 4 8,034 4,441 1,814 1,418 4,417 1,171 1,814 4 2,0377 1,4142 6,236 2,244 1,816 1,329 4,394 4 8,034 4,444 1,423 1,041,892 4,77 877 877 877 877 4 8,034 4,444 1,520,77 1,814,823 1,044,89 1,380 4,394 4 8,034 4,444 1,423 1,041,892 4,77 877	Equipment 14 14,189 sonal 14,189 sonal 14 183,489 sonal 14 186,880 sonal 14 5,1040 sc. 14 5,844 14 19,282 14 17,284 17,284	8,160	3,528	1,298	98	3.5	ģ	
4 361 106 106 175 65,600 31,525 23,075 7,519 4,405 4 13,775 7,349 4,610 16,800 12,363 4,002 2,300 4 16,864 21,740 31,142 4,468 3,261 1,077 623 4 5,644 15,611 6,722 24,73 1,818 600 347 4 10,422 57,229 24,746 3,161 6,844 2,200 1,272 4 10,422 57,229 24,746 3,104 6,844 2,200 1,272 4 10,422 57,229 24,746 3,104 6,844 2,200 1,272 4 10,422 57,229 24,746 3,104 6,844 2,200 1,272 4 10,422 57,229 24,746 3,104 6,844 2,200 1,272 4 2,161 1,185 51,229 6,081 1,103 364 2,200 4 2,161 1,185 51,400 2,827 1,103 364 2,200 4 2,161 1,185 51,400 2,827 1,223 6,226 4 20,734 11,300 4,834 1,812 1,326 4,39 2,54 4 20,734 1,4423 6,236 2,294 1,815 51,789 4,39 4 20,734 4,441 1,423 1,041,822 4,77 897 377 807 4 20,734 4,441 1,423 1,041,822 4,77 897 377 807 5 3 3 3 3 3 3 3 6 3 3 3 3 3 3 3 7 3 3 3 3 3 3 3 7 3 3 3 3 3 3 3 7 3 3 3 3 3 3 3 8 3 3 3 3 3 3 9 3 3 3 3 3 3 1 2 3 3 3 3 3 1 3 3 3 3 3 3 1 3 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 1 3 3 3 3 3 2 3 3 3 3 3 3 3 3 3	Cydynien 14 381,106 ocnos 14 381,106 ocnos 14 183,468 ocnos 14 18,568 ocnos 14 18,568 ocnos 14 18,584 occor 14 18,584 occor 14 18,686 occor 14 18,686 occor 14 18,686 occor 14 17,284 occor 14 18,686 occor 14 17,284 occor	7,776	3,362	1.237	506	8	ē &	2
14 183,488 106,175 45,910 16,880 12,363 4,082 2,890 14 18,586 91,568 3,174 1,188 855 282 163 14 166,880 91,568 3,174 1,188 865 282 163 14 51,040 28,010 12,112 4,466 3,281 1,077 623 14 5,844 3,561 6,720 2,483 1,818 600 347 14 5,844 3,064 1,325 447 6,84 2,009 347 14 104,282 51,289 2,483 1,818 600 347 14 104,282 51,289 6,081 4,451 1,470 850 14 104,282 51,289 6,081 4,451 1,470 850 14 2,481 1,185 59 6,081 4,451 1,470 850 14 2,481 1,182 7,40 2,827	orna 14 193,488 ornal 14 195,489 ornal 14 196,880 14 28,445 14 5,884 14 194,282 14 19,824 14 19,824	198,175	85.690	31 525	22.075	7 640	2 3	114
14 13,375 7,340 3,174 1,188 6,282 2,380 2,380 1,586 1,188 1,188 1,188 2,381 1,685 1,583 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,683 1,783 1,783 1,683 1,683 1,772 1,772 1,783 1,683 1,693 1,772 1,772 1,783 1,693 1,693 1,103 364 2,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,772 1,773 1,772 1,773 1,773 1,773 1,773 1,773 1,773 1,773 1,773 1,773 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,774 1,7	ones 13,375 14 186,880 or 14 51,040 or 14 5,845 14 10,282 14 17,284 17,284	108,175	45.910	16.890	10,00	810')	4,405	10,617
14 166,850 91,566 36,564 14,566 16,567 163 163 14 51,040 220,010 12,112 4,456 3,261 1,077 623 14 5,844 15,611 6,726 4,456 3,261 1,077 623 14 10,622 25,728 24,746 8,104 6,684 2,200 1,272 14 10,624 38,225 16,529 6,081 4,451 1,470 850 14 17,264 8,473 4,087 1,507 1,103 364 2,11 14 2,164 8,473 4,087 1,507 1,103 364 2,11 14 2,164 8,473 4,087 1,507 1,103 364 2,11 14 2,164 8,645 1,507 1,103 364 2,11 14 2,164 8,644 1,607 1,445 3,64 3,64 3,64 14 2,164 8,644	sonal 14 (86,860 er 14 (61,040 14 28,445 14 104,282 14 104,282 14 104,282 14 104,282 14 11,284	7.340	3 174	4 480	200,21	200	2,360	5,688
14 \$1,040 \$29,040 \$29,040 \$1,046 \$3,251 \$2,036 14 \$28,445 \$1,581 \$1,235 44,66 \$3,261 \$1,077 \$623 14 \$2,684 \$1,681 \$6,720 \$2,483 \$1,818 \$600 \$47 14 \$1,682 \$1,681 \$6,720 \$2,483 \$1,818 \$600 \$47 14 \$1,682 \$1,285 \$4,486 \$3,041 \$6,684 \$2,000 \$47 14 \$1,7264 \$3,473 \$4,697 \$1,401 \$4,651 \$1,77 \$6,691 \$4,47 \$1,77 \$6,691 \$1,77 \$6,691 \$1,77 </td <td>er 51,040 er 14 51,040 14 5,884 14 104,282 14 17,284 14 17,284</td> <td>200</td> <td>30,504</td> <td>9 9</td> <td>8</td> <td>382</td> <td>豆</td> <td>88</td>	er 51,040 er 14 51,040 14 5,884 14 104,282 14 17,284 14 17,284	200	30,504	9 9	8	382	豆	88
14 28,446 15,614 6,717 4,466 3,261 1,077 623 14 5,644 15,614 6,644 2,818 600 347 118 684 14 104,282 57,229 24,746 9,104 6,664 2,200 1,272 14 17,244 9,473 1,629 6,081 4,461 1,470 850 14 2,161 1,186 59 22 16 5 3 1 14 2,161 1,186 6,108 1,507 1,103 364 2,71 850 14 2,161 1,186 51 2 1,607 1,103 364 2,71 850 1,11 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,17 860 1,11 1,17 1,17	67 14 28,445 14 5,84 14 10,282 14 10,282 14 17,284	28,96	20,00	900	10,662	3,521	2,036	4.905
14 5,644 3,064 1,325 2,483 1,818 600 347 118 6	14 5,882 14 104,282 14 104,282 14 104,282 14 104,282 14 17,282	20,01	2,112	4,456	3,261	1,077	623	1504
1,004 3,104 1,325 487 357 118 688 1,200 1,272 1,146 6,644 2,000 1,272 1,146 6,644 2,000 1,272 1,147 1,14	**************************************	LLOCL	6,750	2,483	1,818	909	2	Š
Heavy Trucks Automobiles Automobiles Automobiles Automobiles Automobiles Tracks Single (684 2,200 1,272 Tracks Single (684 2	Heavy Trucks 14 Automobiles 14	3,064	1,325	487	357	1,2	2	3 9
4 69,654 38,225 16,529 6,081 4,451 1,470 1,517 4 17,264 9,473 4,087 1,507 1,103 364 211 4 2,46 1,36 5,13 189 139 46 26 4 2,161 1,185 5,13 189 139 46 26 4 37,080 12,273 10,285 7,440 2,527 1,322 635 367 4 20,784 1,1390 4,926 1,815 1,329 4,39 2,53 4 20,784 1,4423 6,236 2,294 1,816 1,329 2,54 4 8,034 4,441 1,409 4,944 1,816 1,829 4,59 4,123,077 1,874,523 1,047,982 477,897 376,897		57,229	24,746	9.107	888	2000	8 5	2
14 17.244 9,473 4,087 1,507 1,103 364 211 14 2,161 1,36 59 22 16 5 31 14 2,161 1,185 513 18 13 46 31 14 2,069 16,512 7,140 2,627 1,823 63 36 2 30,089 16,512 7,140 2,627 1,823 63 36 14 20,754 11,300 4,834 1,812 1,326 438 253 14 20,774 11,409 4,834 1,815 1,326 438 253 14 20,781 14,423 6,236 1,815 1,829 439 254 14 20,281 14,423 6,236 2,294 1,879 6,55 321 4,123,077 1,874,523 1,041,982 477,897 376,897 377 90	7	38,225	16,529	908	4.454	2,4,0	7/2/1	3,066
14 248 136 59 22 16 50 211 14 2,161 1,185 513 189 136 46 26 3 3 46 26 3 3 46 26 3 3 46 26 3 3 46 26 26 36 27 46 26 36 367 27 46 26 36 367 27 46 26 46 46 46 46 46 46 46 46 46 46 46 46 46 46 26 43 26 47 46 46 26 43 26 47 46 46 46 46 26 43 26 43 26 43 26 43 26 43 26 44 44 44 44 44 44 44 44 44 44 44 44 44 44 <t< td=""><td></td><td>9,473</td><td>4.097</td><td>1.507</td><td>7</td><td></td><td>8</td><td>2,048</td></t<>		9,473	4.097	1.507	7		8	2,048
14 2,161 1,185 513 189 19 3 14 30,089 16,512 7,140 2,627 1,823 635 367 2 37,080 12,273 10,896 7,490 3,537 2,718 41 14 20,764 11,380 4,834 1,812 1,326 438 2,83 14 20,791 11,409 4,834 1,815 1,329 439 2,54 14 20,281 4,441 1,4423 6,236 2,294 1,687 555 321 4,123,077 1,874,523 1,047,882 477,887 376 sept 499 2,64	*	98	S	3	3 9	ğ ʻ	21.1	8
14 30,089 16,512 7,140 2,637 133 46 25 2 37,080 12,273 10,935 7,480 3,537 2,718 41 14 20,754 11,380 4,925 1,812 1,326 438 253 14 20,774 11,409 4,934 1,816 1,326 438 253 14 26,221 14,423 6,226 2,294 1,879 655 321 4,123,077 1,874,523 1,047,982 477,897 376 477,897 376 99	7	1.185	3 2	4 5	2 (S	m	7
2 37,090 12,273 10,385 7,490 35.37 2,718 41 20,754 11,380 4,925 1,812 1,822 4,353 2,718 41 41 20,791 11,480 4,925 1,815 1,320 439 254 1,815 1,320 439 254 1,815 1,320 439 254 1,815 1,320 439 254 1,815 1,320 439 254 1,815 1,320 439 254 1,815 1,320 439 254 1,320 4,441 1,921 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,941 1,931 1,94	7	18.512	2 4	200	3	\$	8	2
14 20,754 11,350 4,525 1,480 3,537 2,718 41 14 20,791 11,409 4,934 1,815 1,329 439 254 14 26,281 14,423 6,236 2,294 1,819 555 321 14 8,004 4,441 1,921 1,947,893 1,947	N	12 273	2000	7,02/	57R'	88	367	88 2
14 20,791 11,409 4,825 1,812 1,326 438 253 14 26,281 14,423 6,236 2,294 1,879 555 321 14 8,036 4,441 1,921 707 517 171 99 4,123,077 1,874,523 1,047,982 477,897 396,800 435,600	2	44 900	000	384.	3,537	2,718	₹	22
14 26,281 14,433 6,236 2,994 1,679 555 321 14 8,030 7 1,874,523 1,047,982 477,897 398 800 800 800 800 800 800 800 800 800 8	. 3	086,1	4,925	1,812	1,326	438	253	910
14 8004 441 1921 707 705 20 1879 656 321 4123,077 1874,523 1.1047,882 477,897 205.500		2	458	1,815	1,329	439	254	¥ 4
A,123,077 1,874,523 1,047,982 477,897 3018,000 432,000	: 2	14,423	6,236	2,294	1,679	555	32	3
4,123,077 1,874,523 1,047,382 477,897 ave son	1000	1	1,927	707	517	171	8	38
	4,123,077	874,523	1,047,982	477.897	306 800	433 £07		

TENNESSEE-AMERICAN WATER COMPANY

ALLOCATION OF COST OF SERVICE TO CUSTOMER CLASSIFICATIONS FOR THE TWELVE MONTHS ENDED JULY 31, 2002

Account Number Account Description	Factor	Cost				Public Side	Offier Water	Private Fire	Public Fire
	-	Of DefWCs	Kesidentia	Commercial	Industrial	Authority	Utilities	Profession	Dundandlan
TZATIONS	?	7	φ	φ	Ŀ	9	*	-10	-11
		-407 9ET	40.600						
681 Amort of Capital Leases	*	106,033	58,190 190	25,162	-10,693 9,257	-11,809	0 0	-2,566	4,906
Total Depreciation & Amortization		100,000						100	3,117
		4,121,753	1,891,810	1,036,653	476,461	301,567	135,824	69,220	210.218
녌									
	\$	2 880 857	4 459 003	100					
	ñ	100,000,2	1,100,827	/08.26/	287,617	211,522	64.920	58 002	178 135
	2 4	700,0	2,887	1,329	88	88	136	7	2 2
	5 Å	3/3,900	201,846	908'88	33,729	24,189	8.489	4.808	12 733
685 Franchise Taxes	2 5	8/7	2	*	ĸ	8		7	8 .
685 PSC Fee	<u> </u>	750,047	121,607	63,891	25,808	18.276	6276	444	3 6
685 Filing Fee	₽ (96,58	27,387	14,344	5,812	4.116	1 413	600	2,5
	2 9	2	ĸ	8	15	F	₹ .	98	7,330
	2	414,297	200,685	105,107	42,590	30,161	10.357	8794	10 205
Total Taxes Other Than Income Taxes	•	3,764,124	1,708,661	962,648	396 095	288 RE4	1 1 1 1		200
INCOME TAXES						1	180'16	(4/29	221,629
409 Federal and State Income Taxes	11	2,773,308	1,222,198	730,212	301,459	216.318	71 274	K0 647	,
Total Income Taxes								10,00	1/3,000
		2,773,308	1,222,198	730,212	301,459	216,318	71,274	58,517	173.609
UTILITY OPERATING INCOME	#	7,469,489	3,291,803	1,966,716	811,933	582,620	191,966	157.606	467 500
Total Cost of Service		34,276,171	16.717.144	RESTRICT	2 400 600				200,100
				212(22)	3,432,000	2,475,359	847,793	22,468	1,532,016
Other Revenues	45	-818.522	-396 492	207 680					
Billing Services	5	-306,554	-264,985	36,143	\$. 4 . 4 . 4 . 4 .	-58,588 -2,974	20,463 5,463	-13,424	-36,915
Total Cost of Service Related to Sales		33,151,085	16,055,667	8,410,813	3,407,655	2,412,797	827,299	542.573	1.495.040
Allocation of Public Fire		0	0	0	0	•	c		
Total		\$33,151,095	\$18 055 BET	CD 440 D43	207 64			·	
			an'ann'a	510,011	000'/04'04	\$2,412,797	\$827,299	\$542,573	\$1,495,040

Exhibit 3

REVENUE AT PRESENT, TAWC and CMA PROPOSED RATES

%	Percentage (5)	19.3%	2 8%	0.1%	%9 O	%0.0	%0.0 0.0	43.9%	9.22%
Increase	Amount (4)	2,320,975	254,685	3,086	13.282	240		112,326	2,704,593
		€9	↔		↔	₩	↔	₩	₩
CMA	Kates (3)	\$ 14,347,898	\$ 9,435,141	\$ 3,540,893	\$ 2,359,085	\$ 856,458	1,117,875	368,375	\$ 32,025,725
TAWC Proposed	(2)	\$ 13,965,820	\$ 10,296,191	\$ 3,800,603	\$ 2,614,469	\$ 987,768	1,117,875	368,375	\$ 33,151,102
Present Rates	(1)	\$ 12,026,923	\$ 9,180,456	\$ 3,537,807	\$ 2,345,803	\$ 856,218	1,117,875	256,049	\$ 29,321,132
Description		Residential	Commercial	Industrial	Other Public Authority	Other Water Utilities	Private Fire Protection	Public Fire Protection	Total Sales of Water
Line			8	က	4	Ŋ	9	2	∞

Present and Company Proposed Rates

Line	Description		Present Rates (2)		TAWC Proposed <u>Rates</u> (4)		CMA Proposed <u>Rates</u> (6)
	Chattanooga District						
	Customer Charge:						
1	5/8 Inch Meter	\$	8.26		40.00	_	
2	3/4 Inch Meter	Ψ	13.86	\$		\$	11.35
3	1 Inch Meter		23.07		15.00		15.00
4	1 1/2 Inch Meter		46.18		25.00		25.00
5	2 Inch Meter				50.00		48.00
6	3 Inch Meter		73.86		80.00		75.00
7	4 Inch Meter		138.50		150.00		140.00
8	6 Inch Meter		230.83		250.00		240.00
9	8 Inch Meter		461.67		500.00		475.00
			738.67		800.00		750.00
	Volumetric Charges:						
11	First 400 CF						
12	Next 6,100 CF	\$	0.149	\$	0.205	\$	0.209
13	Next 43,500 CF		2.436		2.729		2.436
14	Next 450,000 CF		1.540		1.741		1.540
15	Next 1,000,000 CF		1.139		1.286		1.139
16	Additional CF		0.916		0.916		0.916
			0.555		0.555		0.555
	Lookout Mountain District						
	Customer Charge:						
1	5/8 Inch Meter	\$	9.24	\$	10.00	\$	11.50
2	3/4 Inch Meter		13.86	, Y.,	15.00	\$	15.00
3	1 Inch Meter		23.07		25.00	\$	
4	1 1/2 Inch Meter		46.18		50.00	\$	25.00 48.00
5	2 Inch Meter		73.86		80.00	\$	75.00
6	3 Inch Meter		138.50		150.00	\$	
7	4 Inch Meter		230.83		250.00	\$	140.00
8	6 Inch Meter		461.67		500.00	φ \$	240.00
9	8 Inch Meter		738.67		800.00	\$	475.00 750.00
	Volumetric Charges:						
11	First 400 CF	\$	0.435	S	0.655	\$	0.609
12	Next 6,100 CF		3.372	~	3.486	Ψ	3.372
13	Next 43,500 CF		2.518		2.498		2.518
14	Next 450,000 CF		1.476		1.736		1.476
15	Next 1,000,000 CF		1.254		1.366		1.254
16	Additional CF		0.888		1.005		0.888
							0.000

Present and Company Proposed Rates

		Present	TAWC Proposed		CMA Proposed
Lin	e <u>Description</u>	Rates	Rates		Rates
		(2)	(4)		(6)
	Lakeview District				
	Customer Charge:				
1	5/8 Inch Meter	\$ 9.24	\$ 10.00	\$	11.50
2	3/4 Inch Meter	13.86	15.00	Š	15.00
3	1 Inch Meter	23.07	25.00	\$	25.00
4	1 1/2 Inch Meter	46.18	50.00	\$	48.00
5	2 Inch Meter	73.86	80.00	\$	75.00
6	3 Inch Meter	138.50	150.00	\$	140.00
7	4 Inch Meter	230.83	250.00	\$	240.00
8	6 Inch Meter	461.67	500.00	\$	475.00
9	8 Inch Meter	738.67	800.00	\$	750.00
	Volumetric Charges:				
11	First 400 CF	\$ 0.149	\$ 0.343	\$	0.000
12	Next 6,100 CF	3.085	2.997	Ψ.,	0.209
13	Next 43,500 CF	2.230	2.009		3.085
14	Next 450,000 CF	1.189	1.424		2.230
15	Next 1,000,000 CF	0.968	1.054		1.189
16	Additional CF	0.608	0.693		0.968 0.608
	Other Water Utilities:				
	Ft. Oglethorpe Block	0.7125	0.8230		0.7125
	Private Fire Service:				
1	1 Inch Meter	\$ 21.60	\$ 21.60	\$	21.60
2	1 1/2 Inch Meter	48.72	48.72	•	48.72
3	2 Inch Meter	86.64	86.64		46.72 86.64
4	2 1/2 Inch Meter	132.12	132.12		132.12
5	3 Inch Meter	194.76	194.76		194.76
6	4 Inch Meter	390.00	390.00		390.00
7	6 Inch Meter	779.40	779.40		779.40
8	8 Inch Meter	1,560.12	1,560.12		1,560.12
9	10 Inch Meter	2,340.36	2,340.36		2,340.36
10	12 Inch Meter	3,120.72	3,120.72		3,120.72
	Public Fire Service:				
1	Ridgeside	\$ 1,849.92	\$ 2.092.00	\$	2,092.00
2	Public Fire	50.00	73.53	Ť	73.53

Direct Testimony of Craig Cantrell

- Q. Please state your name, Company's name, business address and your occupation.
- A. Craig Cantrell, Plant Manager, Velsicol Chemical Corporation, 4902 Central Avenue,
 Chattanooga, Tennessee 37410.
- Q. What are your principal responsibilities as Plant Manager of Velsicol?
- A. I am administratively responsible for the safe and efficient performance of the facilities, employees and operations of the Chattanooga site. In simpler terms, I am responsible for any and all activities, spending and performance issues that occur at the Chattanooga facility.
- Q. Please outline your educational and professional training and experience.
- A. I received a Bachelor of Science and Chemical Engineering degree in 1990 from the University of Alabama. I also have an Associate of Science-Engineering degree from Albert P. Brewer State Jr. College and an Associate of Science-Math degree from Albert P. Brewer State Jr. College that I received in 1987. I have worked in the chemical industry for 16 years, including employment with Tenneco Gas & Methanol; Enron Methanol; and Velsicol Chemical Corporation. I have been employed by Velsicol for 9½ years and have spent over five years as a Plant Manager in either Houston, Texas or Chattanooga, Tennessee.
- Q. Have you previously submitted testimony for the Chattanooga Manufacturer's Association ("CMA") Intervention Group to this Authority?
- A. No.
- Q. Have you held positions in any trade associations that involved water or utility issues?
- A. No.

- Q. Does your company have a facility located in Hamilton County, Tennessee that utilizes water supplied by Tennessee-American Water Company ("TAWC")?
- A. Yes. The plant is located at 4902 Central Avenue in Chattanooga. The site encompasses over 45 acres of land. There are 85 employees at the site currently. Velsicol Chemical has been operating from this location since 1967.
- Q. What is the subject of your testimony?
- A. The purpose of my testimony is to oppose the water rate increase proposed by Tennessee-American Water Company on users in Hamilton County.
- Q. Have you prepared any exhibits to accompany your testimony?
- A. I do not have any exhibits at this time.
- Q. Please describe your company's use of water in its manufacturing and production processes in Chattanooga.
- A. Water is used in a variety of ways at Velsicol. It is used as a media to absorb chemicals from process vent gas streams, to make solutions with bulk dry chemicals for processing needs, for cleaning and PH adjustment of our products, and as a heat exchange medium. Water is also used to clean our process equipment areas.
- Q. How much water is used in your production/manufacturing facility?
- A. Velsicol has used 260,966 million gallons over the last 16 months. That equates to 16,310 million gallons per month over that time frame, or an approximated daily average of about one-half million gallons per day (544,000/gpd).
- Q. Does your company have an alternative material to use in the production processes currently supplied by TAWC water?
- A. Velsicol does not have an alternative material to use in the plant currently.

- Q. Does your company have the ability to bypass TAWC's water lines?
- A. We do not have a means to bypass TAWC lines other than trucking water in.
- Q. Please explain.
- A. Drilling wells is not an option at this site. The best alternative Velsicol could explore to further reduce our TAWC usage are options of recycling. We have looked at that option previously, and it is extremely capital intensive. Alternatively, we would have to truck water which is really cost prohibitive.
- Q. Does your company switch back and forth between TAWC water and an alternative source on a regular basis?
- A. No.
- Q. So TAWC water is a necessary raw material your company must use?
- A. Yes, essentially.
- Q. Describe the impacts on your facility or production processes that the Tennessee-American Water Company's proposed pricing will have if approved by the Tennessee Regulatory Authority.
- A. We are being asked to take unjustified price increase to help their economics while we are struggling in a difficult economic climate ourselves. Financially, the impact is approximately \$40,000.00 per year. Our Company essentially had zero earnings last year, and we continue to face a variety of challenges in 2003. The Chattanooga plant has undergone three (3) personnel reorganizations within the last two years to try to maintain competitiveness. Spending and usage is scrutinized daily, weekly and monthly in a variety of means throughout the hierarchy of the plant, and Company, to ensure we are meeting our goals. TAWC's proposed increase as it stands now could only be managed by elimination of cost

somewhere else. Whether that is in wages or in spending to vendors, it will impact negatively the plant and our local economy.

Q. Would there be any other impacts?

- 17. Additionally, the Chattanooga plant makes the raw material in one unit that supplies the three other operating units on-site and the Velsicol plant in Chestertown, Maryland. Both operating facilities would be adversely impacted if the pricing, as proposed, is increased or if a shut down or production curtailment occurred. That one operating unit is a primary TAWC water user at Velsicol's Chattanooga plant. The economics of sustaining the operations of that unit are already borderline. TAWC's requested increase, if granted, would further help to drive the economics in favor of shutting down that unit of the Chattanooga plant. Approximately thirty percent (30%) of the plant employees would be eliminated if this unit shuts down.
- Q. From your point of view would Tennessee-American Water Company's petition constitute an appropriate water delivery service pricing policy for the State of Tennessee?
- A. No. When Velsicol expands a unit and incurs the capital expenditures to meet a potential growing need and that opportunity or growth does not occur, Velsicol cannot remain competitive by passing along those costs to our customers. A small to moderate price increase may occur in places, but ultimately Velsicol must responsibly and appropriately change its internal cost structure to sustain our viability and sometimes forego recouping those costs. In this case, TAWC has lost volume due to business shutdowns and has expanded capacity in recent years. They now have higher costs of operation due to those expenditures. Since they can and do monopolize the water utility in Chattanooga, they are

attempting to pass this on to their customer base to maintain their profit level. I understand there has not been a price increase in several years. This does not mean TAWC has the right or privilege of trying to compensate for that issue by asking for this level of rate increase, which may simply lead to further shutdowns and, thus, more rate increases.

- Q. Would your Chattanooga facility operate at a competitive disadvantage if Tennessee-American Water Company's proposed price increase was implemented?
- A. Yes. We are continually facing external pressures in the global market, especially from foreign competitors, that makes competition difficult. Velsicol's Chattanooga plant has lot 103 jobs in the last seven years due to these changing economic pressures. We are trying to sustain operations and keep jobs in Tennessee and in Hamilton County where we have been operating for 36 years. Now we face another challenge implemented ultimately by a foreign company, this time on American soil, that will further weaken our economic structure.
- Q. Is there anything else you believe we need to discuss about the price increase?
- A. Yes. This level of rate increase could cause a unit shutdown for Velsicol as mentioned previously in my testimony. Other industrial users will be facing the same issues or moving production to other facilities they have in the U.S. or overseas. A price increase will create an environment that could cause production cutbacks and the further loss of jobs in Chattanooga, especially if any increase that may be allowed by TRA is not allocated fairly based upon the cost of service to various customer classes. Production cutbacks will create lost revenues to local businesses, and again put TAWC into the position of needing another rate increase to cover their newly created revenue losses.
- Q. Does this conclude your testimony?
- A. Yes. I respectfully ask that you consider these factors in your deliberation.

Direct Testimony of Dan Nuckolls

- Q. Please state your name, business address and occupation.
- A. I am Dan Nuckolls, Director of Operations and Maintenance for Koch Foods, LLC. My business address is 1835 Kerr Street, Chattanooga, Tennessee 37401.
- Q. What are your principal responsibilities as Director of Operations and Maintenance of Koch Foods, LLC?
- A. I am responsible for all plant operations, plant maintenance, export logistics and special projects involving my company's production facility in Chattanooga and feed mill in Hamilton County, just outside of the Chattanooga city limits.
- Q. Please outline your educational and professional training and experience.
- A. I received a Bachelor of Business Administration degree with an emphasis in management from West Georgia State University. I also have an Associate's degree in Architectural Engineering Technology from Southern Tech in Marietta, Georgia. I have worked in the poultry industry for 21 years with the following companies: Con-Agra, Seaboard Farms and Koch Foods. I have been with my present company, Koch Foods, for almost six years. I have been titled as Director of Operations and Maintenance at Koch Foods, LLC's Chattanooga facility since 2002.
- Q. Have you previously submitted testimony for the Chattanooga Manufacturer's Association ("CMA") Intervention Group to this Authority?
- A. No, I have not.
- Q. What is the subject of your testimony?

- A. I will present information opposing the Tennessee-American Water Company's petition to increase water rates.
- Q. Have you prepared any exhibits to accompany your testimony?
- A. No.
- Q. Have you held positions in any trade associations that involved water or utility issues?
- A. No.
- Q. Does your company have a facility located in Hamilton County, Tennessee that utilizes water supplied by Tennessee-American Water Company ("TAWC")?
- A. Yes. Koch Foods has two facilities located in Hamilton County, Tennessee that employ 265 people. The production facility in Chattanooga has been in operation since March, 1996, and the Chattanooga facility has been in existence for over 40 years (as Koch or a predecessor). Our company has facilities in five states other than Tennessee, and the Tennessee operations generate about \$300 million per year in economic impact for the state economy.
- Q. Please describe the type of labor that your company uses in its manufacturing and production processes in Chattanooga.
- A. Our company provides jobs for lower skill levels requiring a high school education or less, as well as very technical occupations and careers requiring college and post-graduate degrees.
- Q. Please describe your company's use of water in its manufacturing and production processes in Chattanooga.
- A. Koch Foods utilizes approximately 1.2 million gallons of water per day in its manufacturing and production processes. Water is used in the process of poultry slaughter, for cleaning and chilling of our products, and for purposes of sanitizing the production facility.
- Q. How much TAWC water is used in your Chattanooga production facility?

- A. Koch Foods utilizes approximately 1.2 million gallons per day as noted above, which equates to almost one-half billion gallons annually.
- Q. Does your company have an alternative material to use for the production processes and other operations currently supplied by TAWC water?
- A. No.
- Q. Please explain.
- 17. The United States Department of Agriculture requirements mandate the use of water meeting regulatory guidelines in various stages of our operations. Due to the high volume of water usage, while some alternatives may be available to reduce our TAWC water intake, there would never be a truly competitive alternative to the use of TAWC water in our facility.
- Q. Is water the cleanest, most efficient raw material your company can use?
- A. Yes.
- Q. Does your company have the ability to bypass TAWC's water lines?
- A. No.
- Q. Do you understand that the water company does not want you to reduce the amount of water usage, or invest in a reduction technology, but instead wants to raise the price you would pay for water so that the economics would be equivalent?
- A. Yes, that is my understanding.
- Q. Describe the impacts on your facility or production processes that the Tennessee-American Water Company's proposed pricing will have if approved by the Tennessee Regulatory Authority.
- A. The poultry industry has been operating on slim to non-existent margins for several years.

 An increase in the water rates will only add to the hardships of operating successfully in the

food production industry. Koch Foods is involved in a pure commodity-based industry and does not have the luxury of simply raising its prices in an equivalent manner to the production cost increases it will experience if the water rates are allowed to be raised as requested by Tennessee-American Water Company.

- Q. From your point of view would Tennessee-American Water Company's petition constitute an appropriate water delivery service pricing policy for the State of Tennessee?
- A. No, not in all respects. I can understand the rising costs of doing business we fight it daily. However, I cannot understand the proposed increase at the levels requested. If a nonmonoply provider attempted such an overall rate increase, then I would immediately search out a new supplier. Unfortunately, TAWC is the only delivery company in town unless my company could build its own pipeline or drill its own well to supply adequate water. I cannot imagine why the State of Tennessee would want to foster widespread bypass activity or increased recycling/reuse activities by those that have the ability to do so. Nor can I understand why or how a monopoly would ever be allowed to abuse an exclusive franchise.
- Q. Are there any other impacts to your production facility that will result from a price increase for water rates?
- A. Of course, if water costs increase, then our facility will investigate further the potential investment of capital to reduce water intake as much as possible. While Koch Foods seeks to operate as efficiently as possible, it would not foreclose an opportunity to further reduce water intake to the Chattanooga production facility if analysis indicated such an investment would be feasible and more beneficial than water usage in the long term.

- Q. Would your Chattanooga facility operate at a competitive disadvantage if Tennessee-American Water Company's proposed price increase was implemented?
- A. Yes. Increased water rates would immediately put my facility at a disadvantage considering the amount of water used and the very tight margins in the poultry industry.
- Q. Please explain.
- A. Certainly. Koch Foods has invested a significant amount of money in the Chattanooga, Tennessee operation. Of course, we would like to continue to attract additional investment in this production facility; however, to the extent that the margins are lowered or extinguished due to increased water costs, then capital investment and jobs would not be assigned or implemented in the Chattanooga facility but could go elsewhere, including any of the five other states in which Koch Foods already operates or to another state.
- Q. Assuming that some rate increase is granted by the TRA to Tennessee-American Water Company, how do you believe that increase should be allocated?
- A. I believe that each class of customers should pay its fair share for actual water usage, based upon what it costs to actually provide service to the customer. I do not believe any customer class should subsidize another customer class.
- Q. Does this complete your testimony in this rate increase proceeding?
- A. Yes.

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Direct Testimony of Randy Crowder

- Q. Please state your name, business address and occupation.
- A. I am Randy Crowder, Quality Assurance Manager of R. L. Stowe Mills, Inc. My business address is 1101 South Watkins Street, Chattanooga, Tennessee 37404.
- Q. What are your principal responsibilities as Quality Assurance Manager of R. L. Stowe Mills, Inc.?
- 1. I am principally responsible for establishing, setting and monitoring the quality specifications of the production units and final product at our facility. I report to and work with the division president, various facility managers and our customers. I am tasked with and have significant knowledge of the effects of utility rates and other costs involved in our production processes.
- Q. Please outline your educational and professional training and experience.
- A. I received a Bachelor of Science degree in textile engineering from Southern Tech in Marietta, Georgia in 1981. I have worked in the textile industry for 22 years. I was initially employed by Dixie Yarns/Dixie Group from 1981 until the plant was sold to R. L. Stowe Mills in 1999. I was the Industrial Engineering Manager for Dixie Yarns/Dixie Group from 1981 to 1993, and was also a Quality Assurance Manager for that company from 1993 to 1999. I have been at R. L. Stowe Mills since 1999 in my current capacity as Quality Assurance Manager.
- Q. Have you previously submitted testimony for the Chattanooga Manufacturer's Association ("CMA") Intervention Group to this Authority?
- A. No.

- Q. What is the subject of your testimony?
- A. I will present information opposing the Tennessee-American Water Company's petition to increase the water rates it charges customers.
- Q. Have you prepared any exhibits to accompany your testimony?
- A. No.
- Q. Have you held positions in any trade associations that involved water or utility issues?
- A. No.
- Q. Does your company have a facility located in Hamilton County, Tennessee that utilizes water supplied by Tennessee-American Water Company ("TAWC")?
- A. Yes. R. L. Stowe Mills has two facilities located in Hamilton County, Tennessee that employ over 450 people, both plants being inside the Chattanooga city limits. My company is in the business of mercerizing yarn and also in the business of applying color/dyes to natural yarn. R. L. Stowe Mills manufacturers and produces the colored yarn for the textile and apparel industries, and its customer base is primarily located in North America and Central America. The company's facility on South Watkins Street in Chattanooga, Tennessee is arguably the most modern facility in the United States producing dyed yarn for resale.
- Q. Please describe your company's use of water in its manufacturing and production processes in your Chattanooga plants.
- A. Water is a main component in the mercerizing and dyeing processes for yarn products. For example, the dyeing process requires our use of several gallons of water for every pound of yarn that is submitted to a series of processing steps in order to color natural yarn fibers for purposes of resale. In the mercerizing process, water is used to rinse the natural yarn both

before and after mercerizing. Water is also used in our facilities to rinse/sanitize facilities, for drinking water and for employee lavatory purposes.

- Q. How much TAWC water is used in your Chattanooga production facilities?
- A. R. L. Stowe Mills utilizes approximately one million gallons per day at its current production levels. However, we are operating at only 60% of our production capacity at the present time and, if production were to increase, our water usage would rise at least proportionately.
- Q. Does your company have an alternative supply for the production processes and other operations currently supplied by TAWC water?
- A. Yes, partially.
- Q. Please explain.
- 2. R. L. Stowe Mills has a system of wells that have been installed at its facility. The company, and its predecessor, previously used blended water in some of its processes and production operations. Currently, well water or blended water is not being used. Blended water is not as efficient as a raw material because the level of "hardness" can vary and must be monitored. As the levels of hardness vary, recipes for dyes must be adjusted and the discrepancies are often times only noticed after a batch of off-quality product is produced, which requires us to re-dye that batch. I am not claiming it would be easy to reformulate recipes for dye colors, because the process of getting the right mix would be difficult and labor-intensive for the colors that our facility can produce.
- Q. Are there adverse effects on your company that would be caused by switching over from TAWC water to well water or blended water, or from switching back and forth?

- A. Yes. As described previously, it would require the reformulation of recipes for dye colors.

 Also, we would anticipate that the level of off-quality product would increase.
- Q. Has your company demonstrated that it would consider utilizing its backup as a competitive alternative to TAWC water or otherwise invest in utilizing its well system?
- A. Yes. Our well system could be used again for at least 50% of the water necessary for our current production processes, and that amount might be increased after investigation. While it would require capital investment to utilize the well system again and also would require the modification of plant and procedures to implement the use of the well systems, our company's survival literally (not figuratively) is tied to the costs imposed upon us and our production processes.
- Q. Is there any material that could be used in the dye process or mercerizing process operations of R. L. Stowe Mills instead of water?
- A. No, there is no alternative.
- Q. Does R. L. Stowe Mills have the ability to bypass TAWC's water lines?
- A. Other than the well system described above, not to my knowledge.
- Q. Do you understand that the water company does not want you to reduce the amount of water usage, invest in a reduction technology, or implement capital improvements that will reduce the amount of TAWC water used in your production processes?
- A. Yes, that is my understanding. In fact, TAWC has visited our facility and inquired about the possibility to <u>increase</u> our TAWC water usage.

- Q. Describe the impacts on your facility or production processes that the Tennessee-American Water Company's proposed pricing will have if approved by the Tennessee Regulatory Authority.
- A. The impacts would be devastating, if not fatal. One must understand that the textile supply industry in the United States has not been operating as a monopoly (such as TAWC) garnering an 8% return over the past few years. Instead, the textile and apparel fiber supply industry in which R. L. Stowe Mills is engaged has been fighting in this country to stave off elimination imposed by increasing domestic costs and foreign competition.
- Q. Had R. L. Stowe Mills specifically targeted any cost reductions as goals in its attempt to remain competitive?
- A. Yes, we had. There are three main costs (labor, water and power) in our manufacturing matrix. R. L. Stowe Mills was in the process of trying to reduce its water costs when this petition was filed. Our goal was to reduce our water costs two-cents per pound of yarn processed; however, if the current petition is approved, it appears that the cost per pound for TAWC water actually will rise two or three-cents per pound.
- Q. If Tennessee-American Water Company's proposed price increase is implemented, would your Chattanooga facilities operate at a competitive disadvantage?
- A. Absolutely. In our industry, success or failure is gauged by looking at each penny per pound of yarn sold. As noted above, if the price increase is allowed as proposed, the variance in water costs alone will be dramatic. Frankly, our entire domestic industry is now selling yarn after production at the same price levels as we did in the mid-1980's. The trend since the late- 1990's has been for the sales price of yarn after production to regress or retreat. It is a

deflationary market that we are competing in from the United States' perspective, and we face competition from others that frankly do not appear to be recognizing costs as part of their pricing structure (or they own the monopolies, such as water suppliers, integral to the industry). R. L. Stowe Mills, as a company, reflects the recent general trend in the United States for a zero percent (0%) profit margin in the textile industry. The Chattanooga facility actually operates presently at a negative margin and, if unable to reverse that trend, either through cost control or increased sales - both of which are its target goals, is subject to being eliminated.

Q. Anything else?

- A. Yes. R. L. Stowe Mills is proud of the Chattanooga facility and must now seriously consider trying to reduce its water intake from TAWC by up to 50% in order to remain operational. Scores of suppliers for the textile and apparel industries have been forced to close in the United States. The situation simply is critical and every penny per pound of yarn produced counts dramatically. Unfortunately, a pricing schedule that makes a textile firm in the United States uncompetitive would not result in jobs moving to another state's facility, it would result in the jobs simply being eliminated in this country and, of course, to the extent we allow that to occur, we will all suffer the adverse economic impacts that result.
- Q. Assuming that some rate increase is granted by the TRA to TAWC, how do you believe that increase should be allocated?
- A. Any increase, simply put, should result in the customer base causing the increase to pay its fair share for the provision of services to that type of customer. In today's business climate

and for the companies that employ our citizens in jobs involving global market places, we cannot subsidize other customers.

- Q. Does this complete your testimony in this rate proceeding?
- A. Yes.

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Direct Testimony of Ray Childers

- Q. Please state your name, business address and occupation.
- A. I am Ray Childers. I am President of the Chattanooga Manufacturers Association, and my business address is 1001 Market Street, Chattanooga, Tennessee 37402.
- Q. What are your principal responsibilities as President of the Chattanooga

 Manufacturers Association (sometimes referred to as "CMA")?
- A. I am responsible for the daily operations of the Chattanooga Manufacturers Association including, but not limited to, disciminating news and information regarding actions or activities that may impact or affect manufacturers' growth and economic development in Chattanooga, Hamilton County and surrounding areas in Tennessee.
- Q. Please outline your educational and professional training and experience.
- A. I received a Bachelor of Science (Education) degree from the University of Tennessee at Knoxville in 1962. I completed numerous post-graduate level classes at Middle Tennessee State University. I began my employment with DuPont in 1966 at its Old Hickory facility outside of Nashville, Tennessee. I also worked at DuPont's Chattanooga plant, and was employed by that fine company for 26 years. I have been President of the Chattanooga Manufacturers Association since leaving DuPont in 1992. I am also a registered lobbyist in the State of Tennessee.
- Q. Have you previously submitted testimony for the Chattanooga Manufacturers

 Association Intervention Group to this Authority?
- A. No.
- Q. What is the subject of your testimony?

- A. I primarily will present testimony regarding the City of Chattanooga and Tennessee-American Water Company's resolution of the eminent domain case and the resulting order issued by the Tennessee Regulatory Authority.
- Q. Are you aware that to settle the dispute between the City of Chattanooga and the Tennessee-American Water Company (the "Company" or "TAWC") that the Company agreed to reduce its fire hydrant rates?
- A. Yes, it is my understanding that the Company agreed to reduce fire hydrant rates to the City of Chattanooga.
- Q. What is your understanding of who was to bear the cost of that rate reduction?
- A. I understood that the costs related to the dispute and the rate reduction regarding fire hydrants was to be borne by the shareholders/stockholders of the Company.
- Q. How do you believe the TRA should handle the issue of the fire hydrant rate reduction agreement in this case?
- A. I believe that it is inequitable, if not unconscionable, for the Company to try to renege on the promises made to the TRA, the City of Chattanooga and all TAWC ratepayers. My recollection at the time of the settlement between the City of Chattanooga and the Company, and the prior orders issued by the TRA, is that the reduction only was approved by the TRA on the condition that the Company's ratepayers would never have to pick up the tab for that lost revenue. I seem to recall that was the main issue and that all the TRA directors agreed upon that aspect, even though the panel could not agree on every issue. I believe that despite the Company's current petition and request for nearly \$4 million in increases, it is up to the current members of the TRA to stay the course, continue to enforce the prior order and

maintain its prior resolution by not allowing the Company to recover that lost revenue from any of its ratepayers. It is simply not fair to harm the ratepayers in order to benefit the Company's shareholders, especially considering the prior findings of the TRA.

- Q. What impact, if any, do you believe the Company's proposed rate increase will have to economic development in the production, manufacturing and industrial sectors of the Chattanooga economy?
- 17. It will not help, that is certain. Chattanooga, and the State of Tennessee for that matter, is struggling to retain current and to attract new production, industry and manufacturing jobs; jobs that pay at a much greater scale on average than the typical service industry employment (and other minimum wage sectors). If the proposed increase is implemented, it will cause our manufacturers to be less competitive precisely at a time when becoming *more competitive* is essential. In addition, it will drive away long-term capital investment used for increasing production from some Chattanooga plants. And, it will cause others to reduce their intake of TAWC water through implementation or increased use of wells and recycling equipment which ultimately may lead to a reduction of input and revenue at the City-owned Moccasin Bend POTW.
- Q. Does this complete your testimony in this rate increase proceeding?
- A. Yes.